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# The OIL WEEKLY

OIL and GAS ENGINEERING

FOR OIL AND GAS PRODUCERS AND PIPE LINE MEN

THE WEEK'S NEWS INTERPRETED

May your Brand on the coming year
make it your best year
May you "Ride" every obstacle
without "Pulling Leather"
May your "Chuck Wagon" be fil
with 365 days of Peace, Heal
Happiness and Prosperity

*Round-up Time in Texas*

GHES TOOL COMPANY · HOUSTON, TEXAS · U. S. A.

VOLUME 84 DECEMBER 28, 1936 NUMBER 3

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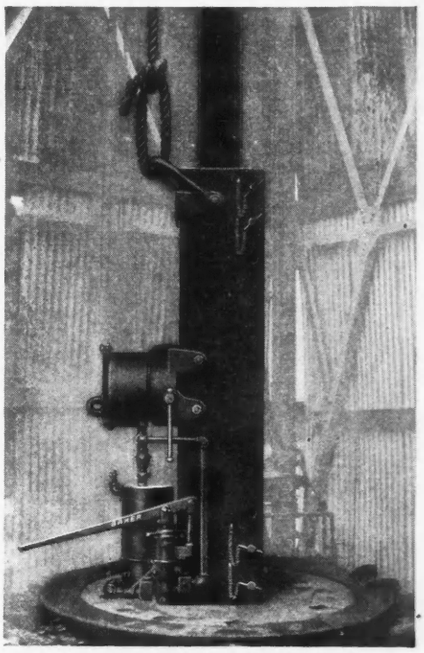

Showing position of Kelly Straightener on rotary table.

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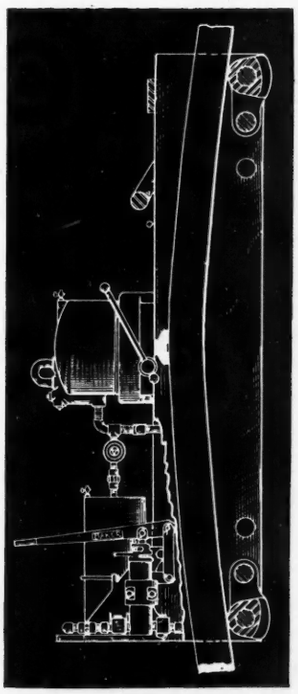
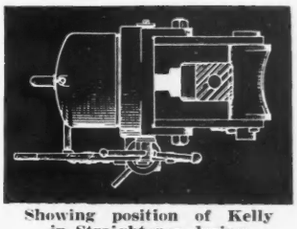


Showing position of Kelly in Straightener during operation.



Showing position of Kelly in Straightener during operation.

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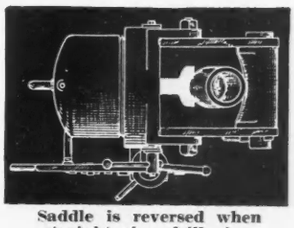

Saddle is reversed when straightening drill pipe.

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**A TYPE TO FIT EVERY PUMPING CONDITION**

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# THE OIL WEEKLY

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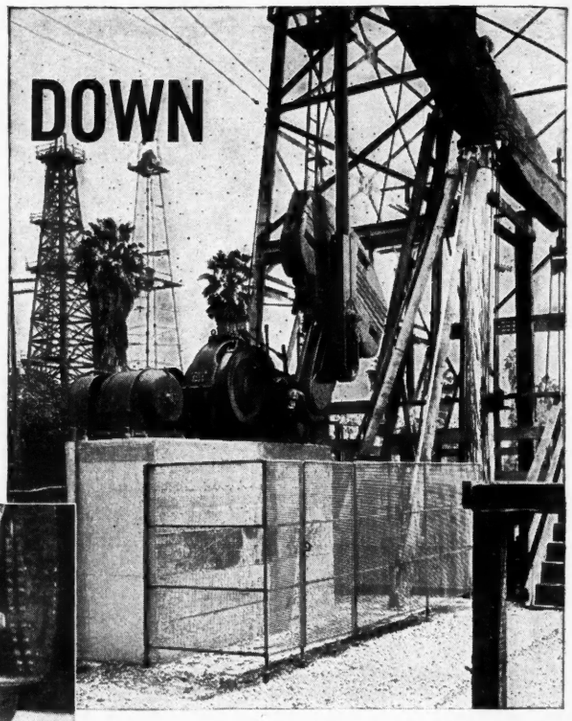
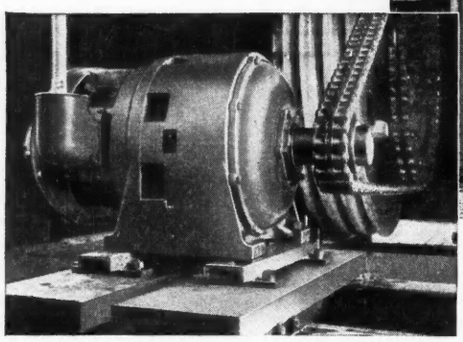
# WHEN PRESSURES GO DOWN WILL YOU BE ABLE TO PUMP AT A PROFIT?





*G-E gear-motor, triple-rated, low-starting-current, squirrel-cage induction motor, chain-connected to beam pump in Oklahoma oil-field*

*G-E splashproof, squirrel-cage induction motor installed outdoors on well-pumping rig, Santa Fe Springs, Calif.*

WHEN you equip your new wells, do so with an eye to the future, when pressures will be less, and it will therefore be necessary to pump continuously to supply the demand. Electric pump drives are the answer. Electric motors and matched control give long life, their maintenance cost is low, and, above all, they give you 24-hour availability when you need it.

The flow of power from electric drive is smooth; there are no pulsating power impulses on the sucker rods. G-E motors are built to deliver full rated load and will continue to operate even though overworked.

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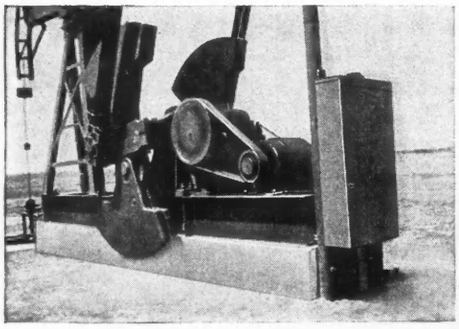
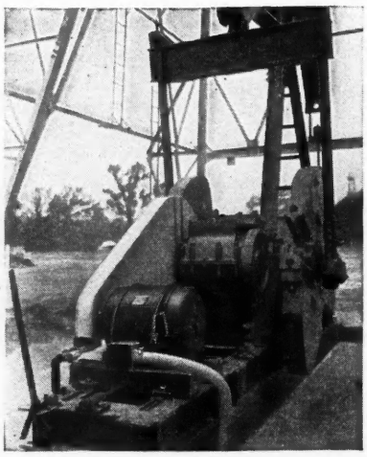


*G-E ball-bearing, high-torque splashproof induction motor, driving pumping unit in Texas Panhandle. Weatherproof control unit in the foreground*



*G-E triple-rated, ball-bearing motor, splashproof design, coupled to a Lufkin reduction-gear pumping unit in the East Texas oil field. Note the weatherproof terminal box in the foreground. Weatherproof control, not shown in the picture, includes automatic starting and stopping by a G-E time switch*

Where central-station power is not economically available on account of physical location, consider the combination of the internal-combustion engine and the G-E generator, which will give you cheap primary power for electric pumping.

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**GENERAL ELECTRIC**

# THE OIL WEEKLY

FOR OIL AND GAS PRODUCERS
AND PIPE LINE MEN

ENGINEERING NEWS STATISTICS

WARREN L. BAKER, Editor


# *This Week:*

THE Bureau of Mines has recommended that the United States daily crude production during January be 2,998,400 barrels, an increase of 68,100 barrels over its estimate for December. This increase takes cognizance of the lower gasoline yield usually experienced at this time of the year and of the greater winter demand for heating fuels. Approximately half of this increase was allotted to Texas, and the remainder divided among the other large producing states. **Page 9.**

TEXAS' January crude production allowable has been set at 1,248,907 barrels by the railroad commission. This figure represents an increase of 44,512 barrels over the December allocation, of which 27,663 barrels is due to new wells and 16,849 barrels the result of increases in several fields due to market demand. The allowable is 72,907 barrels greater than the daily production recommended by the Bureau of Mines. **Page 8.**

HEREAFTER the Rodessa field in Louisiana is to have its per well allowable allocated on the basis of acreage and bottom-hole pressure. Each factor is to get 50 percent of the total field allowable. The conservation commission of the state has issued an order establishing this method, and also promulgating rules and regulations for determing each well's output. In addition, the order establishes strict drilling, completing and producing regulations for the field. **Page 10.**

THE new federal grand jury summoned, when the previous jurors in the anti-trust suit at Madison were dismissed slightly over a week ago, last week returned indictments re-indicting 26 companies and 70 executives. The indictments covered practically the same ground and charges as those returned July 28 and November 6 by the first grand jury in the case, and whose legality has been challenged by defendants. **Page 8**

AXTEL J. BYLES president, American Petroleum Institute, sees the oil industry continuing in a strong position during 1937, with a growing demand for petroleum products. This is particularly encouraging in view of the crude production, refinery runs to stills and motor fuel consumption record levels obtained during 1936. **Page 18.**

BECAUSE it has opened for deep exploration a vast undeveloped area in south Kansas and north Oklahoma, the Clark County, Kansas, discovery is being heralded as the most important strike of the year in the North Mid-Continent district. The discovery well had an initial flow of 2358 barrels from the Viola lime at 6486 feet, the deepest test in Kansas. It is but a few miles north of the state line, and Oklahoma will benefit as much as Kansas from the discovery. Interest in the area is enhanced by the difficult problems that are apt to be encountered by operators. The geological conditions are irregular and highly interesting, and drilling operations in the region have encountered numerous difficulties. **Page 21.**

IF PRESENT unnecessary drilling in proved fields continues, and if production continues to be held within market demand limits, it is likely that practically all wells will have very small allowables. During the past year many states have suffered diminishing allowables per well. It seems clear that most of the so-called unnecessary drilling in proved fields is the result of allowables being calculated on a per well basis. A committee appointed by the Independent Petroleum Association of America has studied the situation carefully, and its report points out evils attending the practice and suggests several possible remedies without disturbing wildcat drilling. **Page 28.**

# *Next Week:*

SUCH time and money may be saved and more efficient use of chemicals may be had if samples of actual oil field emulsions are sent to a central laboratory for determining the effectiveness of an emulsion-treating chemical than if various compounds are tried out on large batches of crude in the field. The old theory that emulsions cannot be shipped without at least partly breaking no longer holds good, as practically any research laboratory has at least one colloid mills that may be used for re-emulsifying the crude. Michael J. Leahy, a consulting engineer, has prepared an article on this subject.

MANY cement failures should be attributed to poor judgment on the part of the operator and not to the poor quality of the cement nor to the cementing company. The oil operator or driller of a well can contribute much to a successful cement operation by having the well in proper condition before cementing begins. There are many things he can do—but wait, and we'll let Brad Mills tell you about these factors next week.

THE annual index covering all issues of THE OIL WEEKLY published during 1936 will be found in the next issue. It will carry full indices to all technical articles, features, news, markets, statistics and field developments. For the convenience of its readers it is the policy of THE OIL WEEKLY to publish this information in the first issue of each year, and to index and cross index all material under classified subjects. Those who save or have available a complete file of the magazine will find their value materially enhanced by making plans to save and use this index.

# *New Trust Charges*

## SECOND JURY RE-INDICTS OIL COMPANIES AND EXECUTIVES

MADISON.

WORKING feverishly to prevent impounding of documentary evidence previously used before a grand jury challenged as illegally drawn and dismissed, government attorneys late December 22 succeeded in obtaining new indictments against major oil companies and prominent oil officials for alleged violation of the Sherman anti-trust law.

The indictments, similar to those returned on July 28 and November 7, were obtained after one week of hearings by a new grand jury. The old grand jury conducted hearings for several months before returning charges substantially the same as those returned by the new investigating body this week.

With return of the new indictments, the defendant oil companies and officials are now involved in two sets of criminal anti-trust actions brought by the federal government and based on the same alleged violations. A number of the defendants are involved in four distinct cases, covered by the two indictments of the challenged grand jury and the two indictments returned this week.

### Same Charges Made

The first indictment of each set charges conspiracy to fix and maintain artificially high prices of gasoline to independent jobbers while the second charges conspiracy to maintain uniform jobbers' contracts.

Just what set of indictments will be tried remained in doubt this week.

The indictments last week were obtained by government attorneys for use in the event Federal Judge Patrick T. Stone upholds the contention of William J. Donovan, New York attorney heading the legal forces of the oil industry, that the old indictments should be dismissed on the ground that the grand jury was illegally drawn. Pleas in abatement raising this challenge were filed here by Donovan before scheduled arraignment of a number of the defendants on December 7.

Government attorneys, arguing that the pleas are without merit in that they fail to show that the irregular selection of the old grand jury prejudiced the jurors against the defendants, filed answers this week.

### Scheduled For January 7

Oral argument on the issue raised by Donovan, scheduled for January 7 will be followed by a ruling by Judge Stone on whether or not trial on the original indictments shall proceed.

In presenting their evidence of alleged anti-trust law violations before the new grand jury which was impaneled following a challenge of the legality of the old investigating body, government attorneys used the voluminous data and domucentary evidence which was subpoenaed for submission to the old grand jury.

Efforts of H. H. Thomas and William H. Dougherty, local counsel for the oil defendants, to obtain a restraining order to prevent use of this documentary evidence before the new grand jury failed December 21.

Judge Stone refused to grant a temporary order and set a hearing at which a permanent injunction may be granted or denied. It will be held on January 7.

Formal exceptions were filed by Thomas and Dougherty, indicating that eventual trial of the new indictments may be appealed on this point. "I don't want to seem captious about filing so many exceptions," Dougherty said,

[*Continued on Page 52*]

# *Hike Texas Output*

## JANUARY ALLOWABLE IS SET AT 1,248,907 BARRELS

AUSTIN.

THE Texas Railroad Commission has issued an order effective January 1 fixing an allowable of 1,248,907 barrels daily for Texas. This new order allows production of 72,907 barrels daily more oil than was recommended to the commission by the Bureau of Mines as the probable consumer demand for Texas oil during the next month.

The increase is 44,512 barrels over the order issued on December 1. Of this amount 27,663 barrels consists of allocations made to new wells since the last order was issued; the remaining 16,849 barrels of the increase was allocated to particular fields to supply demand which has developed during the past 30 days.

The commission raised the Trinity Field 250 barrels; Raccoon Bend (Cockfield) 1000 barrels; Greta Shallow Sand 1500 barrels; Henderson 300 barrels; Leck 200 barrels; Conroe 3,000 barrels; Sand Hills 297 barrels; Louise 117 barrels; Lost Lake 185 barrels; and Panhandle 10,000 barrels.

Each of the fields listed above was raised by the amount indicated on market demand alone. In some instances increases granted to new wells brought a total field increase greater than is shown on the basis of market demand.

### Market Can Absorb Increase

In making public the order Commission chairman Ernest O. Thompson declared that the results of the increases granted last month indicated that the market could readily absorb the amount of oil produced. He explained that the 10,000-barrel increase ordered for the Panhandle was granted because operators in that area, for the first time, presented at a hearing evidence that there was a firm demand for the additional oil which they sought to produce.

He said further that evidence had been presented showing that these producers were not now allowed to produce daily as much of the proratable oil allocated throughout the state as was permitted in any other district in Texas and that they had asked for an allowance equal to that produced by the district next above them, so that the two might be on a parity.

"Stocks of crude oil throughout the United States have been declining steadily so that the commission's order should cause no alarm. It is true that gasoline stocks have begun to rise during the past month, but this is a normal condition for the winter season when refineries begin to build stocks to supply the demand durin the spring.

"The market for crude oil has increased materially during the past year and it

### Texas January Allowable by Districts

| DISTRICT | Allowable December 1 | Allowable December 18 | Allowable January 1 | Increase or Decrease December 18 to January 1 |
|---|---|---|---|---|
| 1. Southwest | 24,288 | 24,899 | 24,747 | — 152 |
| 2. Southwest | 44,534 | 45,671 | 46,990 | 1,319 |
| 3. Gulf Coast | 169,249 | 172,988 | 176,151 | 3,163 |
| 4 Southwest | 110,862 | 115,706 | 115,770 | 64 |
| 5. East Central | 39,696 | 39,873 | 39,900 | 27 |
| 6. East Central | 20,681 | 22,171 | 22,847 | 676 |
| Rodessa | 21,882 | 27,439 | 29,125 | 1,686 |
| East Texas | 444,034 | 446,126 | 447,861 | 1,735 |
| 7. West Central | 38,170 | 39,731 | 39,737 | 6 |
| 7c West Central | 19,881 | 20,268 | 20,268 | ..... |
| 8. West Texas | 147,414 | 150,849 | 151,026 | 177 |
| 9. North Texas | 62,336 | 62,711 | 62,150 | 439 |
| 10. Panhandle | 61,335 | 61,897 | 71,335 | 9,438 |
| | 1,204,395 | 1,230,435 | 1,248,907 | 18,472 |

seems now that 1936 will be the first year in which a billion barrels of oil was sold. In my opinion this will be increased by seven percent during 1937."

The commission continued in effect the order in the East Texas field, which allows production of 2.32 percent of the hourly potential of those wells. Commission engineers estimated that on January 1 the East Texas field would be producing at the rate of 447,861 barrels daily.

Three new fields appeared on the schedule for the first time: the Plummer field in Southwest Texas was given an allowable of 95 barrels daily; in the Gulf Coast District, the Kebela field was allocated 81 barrels; and West Beaumont was allowed 176 barrels.

At a recent hearing before the commission, operators sought to have West Beaumont listed as a field separate from the Amelia field located nearby. While the commission has issued no order based on the evidence presented at the hearing, the division of allowables indicates that such a separation will be ordered. In the accompanying table the district changes in allowables are shown (page 8).

# *Higher Production*

## SUGGESTED BY FORECAST OF BUREAU FOR JANUARY

WASHINGTON, D. C.

TAKING cognizance of the lower gasoline yield from crude usually experienced at this time of year in connection with greater winter demand for heating oils, the Bureau of Mines on December 21 forecast that a daily average production of crude of 2,998,400 barrels would be required during January.

The January figure is 68,100 barrels higher than the estimate for December and 183,900 barrels higher than the actual production in January, 1936, but is 91,800 barrels under the actual average of October, 1936.

During November, reports to the bureau show, daily average crude production was about 3,040,000 barrels, or about 25,000 barrels below the October average. Stocks of domestic crude were reduced at the rate of about 90,000 barrels a day, making the total demand for domestic crude about 3,130,000 barrels daily.

Domestic demand for motor fuel next month is estimated at 34,900,000 barrels, or 7.2 percent higher than the actual of January, 1936. Exports are placed at 2,300,000 barrels, the same as for this month but 272,000 barrels higher than actually shipped last January.

### Gasoline Stocks Down

Stocks of finished and unfinished gasoline on October 31 amounted to 57,662,000 barrels, a decline of 138,000 barrels during the month. According to the American Petroleum Institute, the bureau pointed out, stocks were further reduced during November by about 250,000 barrels, which would place gasoline stocks at about 57,400,000 barrels on November 30, compared with 52,046,000 barrels on the same date in 1935. For January, the bureau anticipates an increase of 5,060,000 barrels, in line with the usual seasonal trend.

Benzol and direct sales and losses of natural gasoline are estimated at 800,000 barrels, making the estimated production of gasoline for the month 41,460,000 barrels, which the bureau has distributed among the districts as follows: East Coast, 6,300,000 barrels; Appalachian, 1,500,000 barrels; Indiana-Illinois, 6,970,000 barrels; Oklahoma, 2,750,000 barrels; Kansas-Missouri, 2,720,000 barrels; Texas inland, 3,290,000 barrels; Texas Gulf, 8,750,000 barrels; Louisiana Gulf, 1,600,000 barrels; Arkansas-Louisiana inland,

**Senator Tom Anglin (left), representative of the governor of Oklahoma on the Interstate Compact Commission, and A. S. J. Shaw, member of the Oklahoma Corporation Commission, look on at the Texas state-wide hearing at Austin, December 18, as (in the picture below) Laten Stanberry, chief supervisor of the Oil and Gas Division of the Texas Railroad Commission (left), reads into the record the data upon which Col. E. O. Thompson (right) and other members of the commission will base Texas' January production allowable.**

910,000 barrels; Rocky Mountain, 950,000 barrels; California, 5,720,000.

Natural gasoline consumption at refineries in January is estimated at 7.3 percent of the total gasoline required, a decline of one percent from December in accordance with the usual seasonal change. The yield of straight-run and cracked gasoline is estimated at 43.02 percent, a decline of 0.60 percent from the December estimate. On the basis of this yield a production of straight-run and cracked gasoline of 38,440,000 barrels is provided and 89,350,000 barrels of crude will be required at refineries.

Runs of foreign crude are estimated at 2,900,000 barrels, compared with 2,800,000 barrels for the current month; exports are placed at 3,800,000 barrels, a decrease of 100,000 barrels, while fuel and losses are increased 100,000 barrels to 2,700,000 barrels.

### Big Oil Stock Decline

Total net stocks of refinable crude (gross stocks minus basic sediment and water) as reported to the bureau were 292,271,000 barrels as of November 1, last, a decline of nearly 25,000,000 barrels from the same date in 1935. The significance of this decrease, however, the bureau commented, is offset to a considerable extent by an increase of nearly 8,000,000 barrels in stocks of finished and unfinished gasoline during the same period. "The ease and rapidity with which new production could be secured from wells now shut in is a further important consideration in any determination of the proper economic level of crude stocks," it was pointed out.

Application of the various factors gives a required daily average production for January of 2,998,400 barrels. In the distribution of this production among the states all are given increases except Colorado and Indiana, where output unchanged at the December forecast level is recommended, and Pennsylvania, Wyoming, Michigan and Ohio, which are given slight increases.

The allocation by states, compared with the recommendations for December and actual production for October, is shown in the accompanying table.

# *Promulgate Order*

## ACREAGE AND PRESSURE TO BE RODESSA ALLOCATION BASIS

SHREVEPORT.

THE minerals division of the Louisiana Conservation Commission last week officially promulgated Order No. 7, which provides for the allocation of production at Rodessa on an acreage and bottom-hole pressure basis and also establishes rules governing drilling and production practices in the field. Pursuant to this order the commission issued the January allowable on this basis.

Most important part of the order is the method of allocating production. Fifty percent of the field's total daily allowable production is to be based upon acreage and the remaining 50 percent upon bottom-hole pressure. With the January allowable of the field set at 62,500 barrels, this means that 31,500 barrels will be allotted on an acreage basis and the same amount on a bottom-hole pressure basis.

### Production Method Interesting

In allocating the "daily acreage allowable" it is provided that each well on a 40-acre producing unit will determine the number of acres per well. At present Rodessa (Louisiana side) has 55,518.2 proved acres oil productive, and since 50 percent of the 62,500 barrels daily allowable is to be based on acreage, one acre is equal to 5.6630 barrels.

The "bottom-hole pressure allowable" is determined in a similar fashion. The total bottom-hole pressure is found and an average calculated from this figure, which figured against the field's amount of production to be based upon this factor gives the number of barrels to be allotted to each pound of pressure.

The Rodessa Operators Committee on November 27, 1936, prepared a contour map that showed the total bottom-hole pressure as 490,772 pounds and the numerical average bottom-hole pressure as 1686.5 pounds, which makes the January allocation on the basis of 0.0637 barrels per pound of bottom-hole pressure.

It will be noted that the figures in both acreage allowable and bottom-hole pressure allowable are carried out four decimals. This is provided for in the rules.

The regulations provided that the gas-oil ratio of each well is to be kept as low as possible, but in no event is to exceed 2000 feet per barrel of oil produced. However, provisions are made for a few exceptions to this rule.

### Strict Drilling Rules

Under the rules for drilling and completion of wells, the order provides a minimum of 100 feet of surface casing, which shall be allowed to stand at least 24 hours before drilling plug; that a minimum of 2,000 feet of second-string casing shall be set; and that the producing string of casing shall consist of new casing, mill-tested to at least 2,000 pounds per square inch, which shall be set at a sufficient depth to cut off all gas formations above the oil-saturated horizon in which the well is to be completed. The position of this oil horizon shall be determined by coring or testing, and the third or producing string shall be cemented below the gas-oil contact.

The order provides that cementing shall be done by the pump and plug method and sufficient cement shall be used to fill the annular space behind the casing, up to a point within 3,000 feet of the surface. Provision for testing of this casing before the plug is drilled are given.

Another rule provides that a blow-out preventer shall be installed on the second string at a depth not greater than 4500 feet, and on all strings thereafter. All wells shall be equipped with a bradenhead on the second string having a working pressure of not less than 1500 pounds per square inch. A signed record that deviation tests have been made every 500 feet is required at or before the filing of the last casing test with the conservation commission's office. Wells within 150 feet of a property line must not have over three degrees deviation.

### Fix Producing Regulations

Under "production and equipment rules," the order provides that all natural flowing wells shall be equipped with tubing of not more than 2½-inch diameter and the bottom of the tubing shall not be higher than within one joint of the bottom of the oil string of casing. If tubing is perforated, the perforation shall not extend higher than within one joint of the bottom of the tubing. All wells shall be equipped with adequate chokes or flow beans to permit the proper taking of allowable production. All flowing wells must be produced through a separator having ample capacity and maintained in

[*Continued on page 67*]

## Recommendatory Levels of Required Crude Oil Production by States*

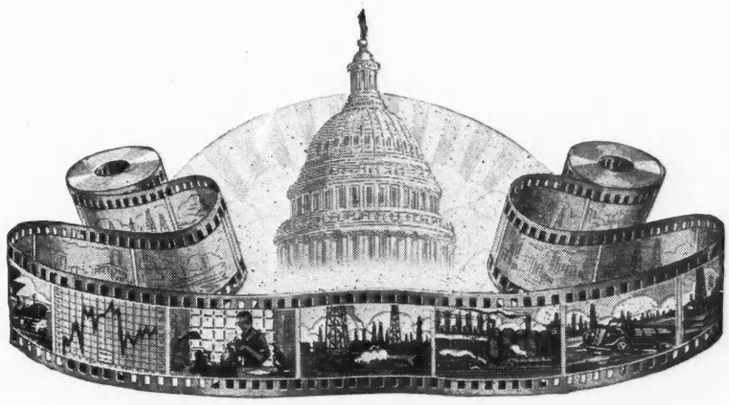
**(Daily averages in barrels)**

| STATE | Forecast January, 1937 | Forecast December, 1936 | Actual Production† October, 1936 |
|---|---|---|---|
| Texas | 1,176,000 | 1,145,200 | 1,205,600 |
| Oklahoma | 573,100 | 567,000 | 589,000 |
| California | 559,900 | 553,400 | 578,800 |
| Louisiana | 216,300 | 204,800 | 233,000 |
| Kansas | 165,600 | 155,900 | 166,400 |
| New Mexico | 79,800 | 78,300 | 81,900 |
| Pennsylvania | 48,200 | 48,800 | 49,900 |
| Wyoming | 40,100 | 40,200 | 42,400 |
| Michigan | 29,200 | 29,300 | 29,300 |
| Arkansas | 27,300 | 26,800 | 27,200 |
| Kentucky | 15,200 | 14,500 | 16,700 |
| Montana | 14,400 | 14,300 | 15,200 |
| Illinois | 12,800 | 11,900 | 12,700 |
| New York | 12,600 | 11,900 | 13,500 |
| Ohio | 11,000 | 11,200 | 10,600 |
| West Virginia | 10,200 | 10,100 | 10,800 |
| Colorado | 4,500 | 4,500 | 4,900 |
| Indiana | 2,200 | 2,200 | 2,300 |
| | 2,998,400 | 2,930,300 | 3,090,200 |

*The recommendations in this table have been calculated as the requirements for the months stated and are not intended to be calculations of daily average demand for the current year or for any period other than the months stated.

†This column shows the latest available production in place of the forecast for the same month of the previous year as heretofore.

# The Changing Panorama



THE OIL WEEKLY'S COMPOSITE VIEW OF INDUSTRY

Edited by L. J. LOGAN, Associate Editor

THE weeks just ahead promise to be eventful for the oil industry. This week will usher in the new year, and while 1937 is still young, various important developments are likely to occur.

### Price Raise First Up

About the first matter that will come up for consideration is the contemplated general crude price increase. The 17-cent increase for Mid-Continent crudes scheduled by Continental Oil Company and several other concerns will become effective a week hence, on Monday, January 4.

Other purchasers have had nearly a month to decide whether to meet the increase, partially meet it, or reject it, but apparently will continue to wait virtually until the zero hour or later.

But the period of waiting is nearly elapsed, and now a showdown impends.

Among the crude oil purchasers there appears to be a difference of opinion as to the justifiability and advisability of the contemplated higher crude prices. However, the movement toward the higher prices seems to have enough support to assure increases of some extent, whether or not the 17-cent advance is generally accepted. Moreover, it would not be surprising if the advance becomes nation-wide in scope. Premiums are being paid for crude oil not only in South Texas, East Texas, and other sections of the Mid-Continent, but also in California.

With crude bringing premiums, and with the markets for refined products strong and at improved levels, it appears quite likely that the crude market would remain stable in the face of higher postings.

### Continued Restraint Needed

If and when the higher prices are generally adopted, however, there will no doubt be statements from the purchasers, warning against excessive drilling and urging continued co-operation of producers in keeping production in balance with demand. Such warnings will be justified, at any rate.

The past year witnessed more drilling than was justified by the gains in either crude production or demand. If crude prices are raised, there will be added incentive for excessive drilling.

Similarly, continued restraint in crude oil production obviously is a fundamental requisite for sound markets at higher price levels.

Much has been said lately to the effect that producers have earned higher crude prices through rigid curtailment of production. But it must be remembered that the reward of favorable crude postings is not a trophy that can be earned once and for all and kept. It is a loving cup that has to be earned over and over again. The producers can retain it only as long as they keep supply balanced with demand.

### New Oil Legislation Looms

The new year probably will bring important developments in the legislative chambers, federal and state.

Two measures that are contributing materially to the stability of the oil industry will expire in 1937, and if they are extended, new legislation must be passed. The Connally Act, prohibiting interstate shipment of contraband oil, is one of the expiring measures, and since it is considered highly desirable, its re-enactment undoubtedly will be actively sought. There are some misgivings, however, that when this law is brought up for renewal in Congress there may be efforts to bring the industry under more extensive federal control.

The other legislation which will expire in 1937 and which will be submitted for renewal is that under which the Interstate Oil Compact Commission was set up. The compact expires in September, 1937, and to be retained must be approved again by Congress and by the legislatures of the compacting oil states.

Even though the federal government approval may be obtained, it is not assured that there will be acceptance again by all the states now in the compact. However, there have been some indications that not only present member states but also additional states will join up.

In Texas, largest producing state and heretofore the scene of perplexing proration difficulties, there is in prospect an early overhauling of the whole complex oil conservation machinery. Some of the basic proration laws of the state, as well as supplementary laws and regulations, will expire in 1937, and if re-

tained must be re-enacted. Among the expiring laws is that which permits the Texas Railroad Commission to consider market demand in fixing allowables.

Since Texas in the past has been generally receptive to oil conservation laws, it does not seem likely that there will be any unsurmountable opposition to sound new laws. Nevertheless, there are some fears that the Texas legislature may drop a monkey wrench in the proration machinery in the course of the overhauling job.

### Prospects Continue Bright

Although it is felt in some quarters that 1937 may bring less spectacular business gains than 1936, the petroleum industry so far has not given any indication of an interruption of the rising trends.

Consumption of petroleum and of petroleum products continues at all-time record proportions, and the markets are strong. With business volume still expanding, and with prices improving, the oil companies have the prospect of further gains in earning power, even though financial results for 1936 were generally the best since 1929, while some companies this year broke all previous records in earnings.

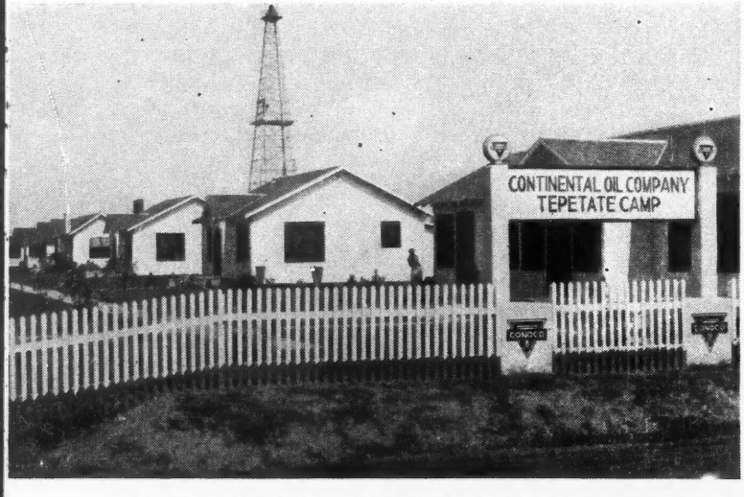
### New Peaks Reached

Figures that will be available soon covering 1936 will show that the year brought a new all-time record production and consumption of petroleum and of petroleum products.

The slight losses of markets in the depression have been recovered, and the industry now is in new high ground as regards the demand for its products. Not only gasoline, but also kerosene, fuel oils, and other products have recovered remarkably, in demand.

Furthermore, supply has been well balanced with the demand, the production control bringing, in fact, steady withdrawals from storage for several years. The above ground stocks of oils have been reduced from the previous burdensome proportions to sound, economic levels.

By virtue of the successful restriction of production, and the present comparatively light inventories, the oil industry has achieved improved prices, and the prospect of still better prices.




**Continental Oil Company has built a modern camp for its employees in the new Tepetate field, Louisiana Coast. The field is being developed on an orderly basis and several interesting operating practices are in use, including metering of oil under high pressure and stabilization of the crude to prevent transportation losses.**

With the volume of business at all-time record levels, and with the prices favorable, satisfactory earnings naturally occurred.

Since there have not been so far any material changes in the conditions surrounding the industry, continued favorable earnings in 1937 are indicated.

### Storage Increase Threatened

However, there has been one change in policy that embodies a threat to the industry. It is the abandonment of the objective of further reducing storage.

After several years of steady withdrawals from storage, the industry apparently has hit a minimum and henceforth probably will add to, rather than take from, storage.

Texas, Oklahoma, Kansas and New Mexico are materially exceeding the Bureau of Mines recommendations this month on crude production allowables, and may be expected to show similar excesses in January. Louisiana and California long have been producing substantially more than the federal allocations.

For the immediate future, additions to storage seem inevitable.

Obviously, further slackening of restraints on crude production and important additions to storage might soon result in weakening of the markets, lower prices, and shrinkage of earnings.

### Purchasers' Nominations Are Guide

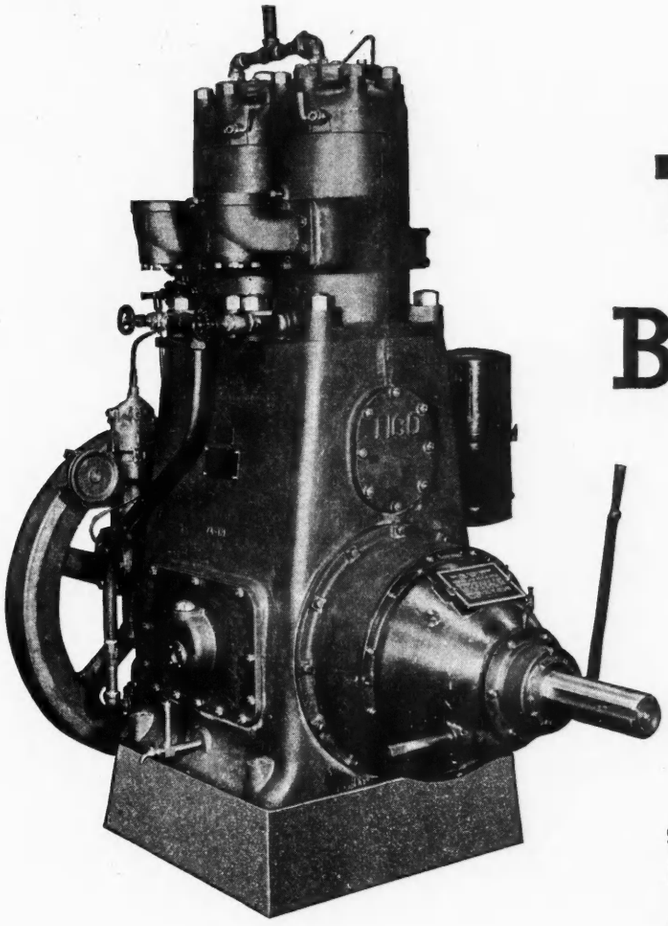
In declining to accept the Bureau of Mines calculations of demand for Texas crude production, the Texas Railroad Commission has chosen to be guided rather by its own data, embodying the nominations furnished by purchasers. The commission is fixing allowables in conformity with the nominations. Lately the Oklahoma conservation officials have embarked upon a similar program, having asked purchasers for nominations for crude oil for January. The figures are to be supplied at the state proration hearing December 29. Both Texas and Oklahoma, however, still are taking the Bureau of Mines recommendations into consideration along with the purchasers' nominations.

### Salaries Increased

Further justification for higher crude prices is found in the rising trend of costs of producers. This trend is exemplified in the recent action of various companies in raising the salaries of employes. The salary increases apply to employes in not only the production but also the refining, pipe line, and marketing departments. These increases constitute at least partial justification for higher crude postings as well as for increased product prices.

Costs of materials used by the oil industry also have increased and apparently are destined to increase further. Steel prices, for instance, have been marked up, those increases, in turn, being the result of higher wage and material costs of the steel industry. Similarly, the industries that supply the steel industry point to higher wages and costs as the reason for their higher prices. Oil prices must go up not only because oil companies are increasing salaries but also because steel is higher, because the brick lining of furnaces is more expensive, because the brick manufacturers are paying higher wages, and so on. The increasing costs of producing oil are at least partially the result of forces not within the oil industry's control, and the industry's only recourse, in compensation, is to increase the prices of its products in proportion.

# NEW "TICO" VERTICAL USES TIMKEN BEARINGS



Tapered Roller TIMKEN BEARING EQUIPPED

A symbol of quality for any piece of equipment with which it is associated

Again the Titusville Iron Works Company turns to Timken Bearings for dependable modern performance—this time on the crank shaft, layshaft, water pump, and governor of the new "TICO" 9" x 10" Vertical Twin Gas Engine (convertible to a 7½" x 10" full Diesel.) When operated as a Diesel, Timken Bearings are also used in the fuel pump drive.

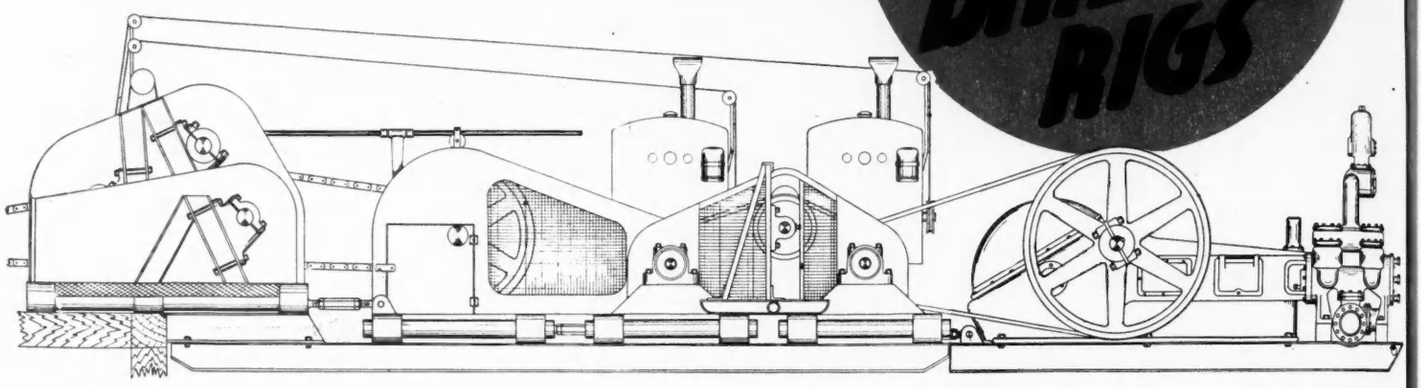
One of the first oil field engine manufacturers to apply Timken Bearings to gas engine crank shafts, this company has also been one of the foremost in consistently exploiting their advantages —with results that are well-known throughout the oil fields.

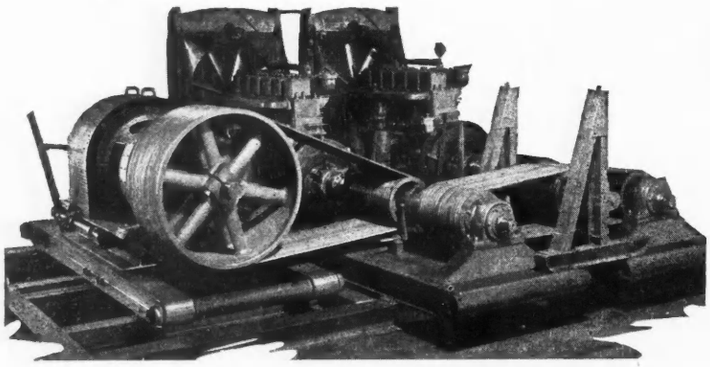
Timken Bearings have so definitely proven their efficiency, economy and endurance on the crank shafts of oil field engines of every type—steam, gas and Diesel —that the time is not far distant when engines not so equipped will be obsolete before they go into service. To guard against this possibility in your engines specify Timken Bearing Equipped.

THE TIMKEN ROLLER BEARING COMPANY, CANTON, OHIO

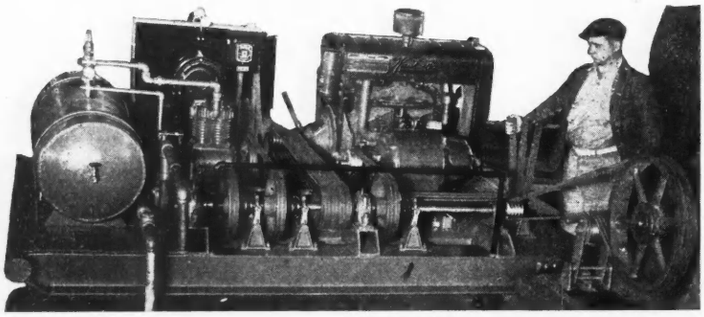
**TIMKEN** *TAPERED ROLLER* **BEARINGS**

# BRIDGEPORT Mechanical ROTARY DRILLING RIGS





Complete power unit of Model TD-32 Bridgeport Mechanical Rotary Drilling Rig, with covers and guards removed. Observe the sturdy and compacts design.



The Utility and Engine Starting Unit, an outstanding feature of Bridgeport Mechanical Rotary Drilling Rigs, eliminating entirely the costly and more-or-less complicated conventional engine starting equipment. In this portable, easily handled and quickly installed Unit is combined all the component parts for servicing the Rig and starting the prime movers.

## REDUCE DRILLING COSTS —ADD TO OPERATING PROFITS

Powered with internal combustion engines of suitable size and type, the fuel cost of the prime mover is lowered up to 75% or more; little water, other than that used in the hole, is required; moving costs are substantially reduced; rigging-up time, in so far as the power equipment is concerned, is reduced to a matter of hours; and maintenance costs are lowered.

These substantial savings are effected without sacrificing drilling and hoisting time, and with no material increase in the first cost of the complete drilling equipment.

**For the complete story of Bridgeport Mechanical Rotary Drilling Rig Economy, ask for Bulletin No. 60**

*Three sizes of rigs, for a wide range of duties, carried in stock ready for quick delivery anywhere.*

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# MEN IN THE INDUSTRY'S NEWS

## WESLEY GISH WILL BE VICE PRESIDENT OF NEW TRANSWESTERN OIL COMPANY JANUARY 1

»

SINCLAIR'S GEOLOGIST AND LAND MAN WILL LOCATE IN OKLAHOMA CITY

»

**WESLEY G. GISH,** head of the land and geological departments of Sinclair Prairie Oil Company in the Southern division, embracing all Texas, New Mexico, Arkansas and Louisiana, with headquarters at Fort Worth, has resigned effective January 1 to become vice president in charge of exploration of Transwestern Oil Company. The latter represents the merged holdings of the T. B. Slick Estate and Slick-Urschel Oil Company, and maintains headquarters at Oklahoma City. Gish will move his family to the Oklahoma capital shortly after the first of the year.

Gish is a native of Abilene, Kansas. He completed a course in geology while attending the University of Nebraska. First active field service began early in 1921 when he entered the services of Stewart and Wright Interests in Montana. In December, 1921, he joined the geological staff of White Eagle Oil & Refining Company at Wichita, Kansas. He severed this connection January 1, 1925, to go with Sinclair Oil & Gas Company. During the 12 years of continuous service with the latter concern and its successor he spent approximately 6½ years in Texas.

WESLEY G. GISH

**L. P. ST. CLAIR,** president of Union Oil Oil Company of California, was seriously injured the night of December 19, when he was struck by an automobile near his home in Los Angeles. St. Clair was knocked about 25 feet and suffered a fractured pelvis and his right leg was broken in two places, in addition to other less serious injuries. He was removed at once to a local hospital, and two days later reports from the hospital were to the effect he was getting along very nicely and no serious complications were expected.

**J. EDGAR PEW,** vice president, Sun Oil Company, Philadelphia, accompanied by his wife, reached Dallas, their former home, early last week to spend the holidays with their children and grandchildren.

**THOMAS MIDGLEY, JR.,** of Ethyl Gasoline Corporation, will be presented with the Perkin Medal of the Society of Chemical Industry at a joint meeting of the American Section of the Society of Chemical Industry and the American Chemical Society on January 8, 1937. The medal is awarded annually for the most valuable work in applied chemistry and is given to Midgley for his work in the development of anti-knock motor fuels, safe refrigerants, etc. James G. Vail, chairman of the American Section, will preside over the meeting. The program will include a talk on the accomplishments of the medalist by Robert E. Wilson, presentation of the medal by Marston T. Bogert, and the medal address, "From the Periodic Table to Production," by Thomas Midgley, Jr. The meeting will be held at 7:30 p.m. at The Chemists' Club, 52 East 41st Street, New York City. A dinner in honor of Midgley also will be held at the club immediately preceding the meeting, starting at 6 p.m.

### The Oil Man's Calendar

| | |
|---|---|
| JAN. 16–24 | First International Consumers Petroleum Exposition, Detroit, Michigan. |
| FEB. 15–19 | American Institute of Mining and Metallurgical Engineers, New York |
| MAR. 12 | Interstate Oil Compact Commission, Oklahoma City, Oklahoma. |
| 17–19 | American Association of Petroleum Geologists, Los Angeles, California. |
| APR. 8–10 | Petroleum Industry Electrical Association, Shreveport, Louisiana. |
| 15–16 | National Petroleum Association, Cleveland, Ohio. |
| MAY 6–7 | American Petroleum Institute, Division of Production, Eastern District, Deshler-Wallick Hotel, Columbus, Ohio. |
| 10–16 | American Gas Association, Natural Gas Department, Kansas City, Missouri. |
| JUNE 1–3 | American Petroleum Institute, Mid-Year Meeting, Colorado Springs, Colorado. |
| 11 | Interstate Oil Compact Commission, Santa Fe, New Mexico. |
| 17–19 | Pennsylvania Grade Crude Oil Association, S.S. "See and Bee," Sailing from Buffalo, New York. |

**H. E. JOHNSON,** superintendent of automotive transport for Tide Water Associated Oil Company in Tulsa, has been elected president of the Petroleum Motor Transport Association of Oklahoma. He succeeded Harold D. Patridge of Bartlesville. Other officers include Charles H. Rudy, Ohio Oil Company, first vice president; H. L. Armstrong, Skelly Oil Company, second vice president, and L. E. Schroeder, Mid-Continent Petroleum Corporation, re-elected secretary-treasurer.

**J. S. COSDEN,** head of Cosden Oil Corporation, Fort Worth, which has operated under a trusteeship since July 1, 1935, is supported by holders of first mortgage bonds in presenting a plan of reorganization under Section 77-B of the National Bankruptcy Act. A general hearing on the reorganization plan will be conducted by Federal Judge Jas. Wilson at Fort Worth on January 22. The company's liabilities amount to about $4,000,000, according to petition filed with the court.

**HARRY KISER,** formerly scout clerk in the Tulsa office of Carter Oil Company, has been transferred to Ponca City as scout for that district.

**ROBERT B. CAMPBELL,** of W. I. Southern, Inc., with his family, is spending the Christmas holidays in Mobile, Alabama.

**WALTER L. CASBURN,** Gulf Oil Corporation, Tulsa, and his wife, are vacationing in Houston, Texas.

**DANA H. KELSEY,** vice president in charge of the land department of Sinclair Prairie Oil Company, Independence, Kansas, visited the company's district office at Fort Worth last week while en route to Midland to spend Christmas with a son.

**W. B. WILSON,** chief geologist for Gulf Oil Corporation, Tulsa, left the city last week for Cincinnati, Ohio, where he will attend the annual meeting of the Geological Society of America.

**LEONARD C. CARTWRIGHT,** B.S.Ch. E. University of Florida 1927, A.M. Harvard University 1935, has recently joined the staff of Foster D. Snell, Inc. Cartwright has had extensive experience in the industry as research, development and consulting chemist and engineer. He was for a time in charge of testing reagent chemicals for Sterling Products Company, Easton, Pa., did refrigeration research for Comstock & Westcott, Inc., Cambridge, Mass., and spent a year in electronic research for Raytheon, Inc., Cambridge, Mass. He was a member of

the research staff of Skinner & Sherman, Inc., Boston, Mass., for three years, then was called to Venezuela as chemical engineer in charge of an experimental caustic soda factory, which was soon discontinued because of political conditions in that country. Since returning to the United States he has completed a special research program for Sterisol Ampoule Corporation, Long Island City, New York, on the commercial production of solutions for intravenous injection. His addition to the staff of Foster D. Snell, Inc., is in line with the increasing service being rendered to manufacturing and sales organizations by that firm of consulting chemists and chemical engineers.

**STANDARD OIL COMPANY** of California early in December made several transfers among its division engineers. R. D. Copley, who had been acting district petroleum Engineer in Southern California is now with The California Company, stationed at Denver. P. C. McConnell, district petroleum engineer for the Southern division, is acting in same capacity with headquarters at Taft. R. I. Brown, district petroleum engineer for the San Joaquin Valley, is district engineer for the company in Southern California with headquarters at Los Angeles.

## Stanley Staying

E. N. STANLEY

**Reports that Captain E. N. Stanley, (above) would resign from the Texas Railroad Commission immediately, were refuted last week by Commission Chairman Ernest O. Thompson. Thompson said that he had persuaded Stanley to stay and continue his work as chief enforcement officer of the railroad commission. It is Stanley's duty to see that the conservation laws are obeyed throughout Texas.**

## Weil Re-Elected

A. L. WEIL

A. L. WEIL, president of General Petroleum Corporation of California, was elected to serve a second term as president of the California Oil & Gas Association at the December meeting of the association board of directors. L. P. St. Clair, president of Union Oil Company of California, and R. E. Collom, vice president of Continental Oil Company, were chosen vice presidents. H. L. Westbrook, vice president of Belridge Oil Company, was re-elected treasurer for his twelfth successive term.

F. E. Foster continues as managing director, and D. S. Kilgour continues as assistant manager.

Directors elected for 1937 include: S. Belither, president, Shell Oil Company; Cyrus Bell, president, Perkins Cementing, Inc.; R. A. Broomfield, president, Barnsdall Oil Company; W. H. Geis, president, Super Asphalt Products Company; E. B. Gilmore, president, Gilmore Oil Company; J. R. Hoffman, vice president, Smith Booth Usher Company; Wm. F. Humphrey, president, Associated Oil Company; C. S. Jones, president, Rio Grande Oil Company; K. R. Kingsbury, president, Standard Oil Company of California; Ralph B. Lloyd, president, Lloyd Corporation; W. C. McDuffie, receiver, Richfield Oil Company of California; Alexander B. Macbeth, president, Southern California Gas Company; A. C. Mattei, executive vice president, Honolulu Oil Corporation, Ltd.; C. E. Olmsted, president, The Texas Company (California); W. H. Reid, president, Hancock Oil Company of California; William Reinhardt, manager, Kettleman North Dome Association; F. C. Ripley, manager, Chanslor-Canfield Midway Oil Company; R. H. Taylor, president, Consolidated Steel Corporation.

# DIED:

**OSCAR B. FRANKS,** 60, cashier of Venezuela Gulf Oil Company at Maracaibo, Venezuela, died in a San Antonio hospital on December 18. On November 30, he underwent an operation for the removal of a tumor from the brain.

When a young man, Franks went to Mexico and for many years was employed in various office positions by the old Mexican Central Railway. In February, 1918, he became cashier of Mexican Gulf Oil Company at Tampico, which position he held until July, 1931, when he was transferred to Venezuela Gulf Oil Company.

Interment was at San Antonio on December 20. Franks is survived by his widow.

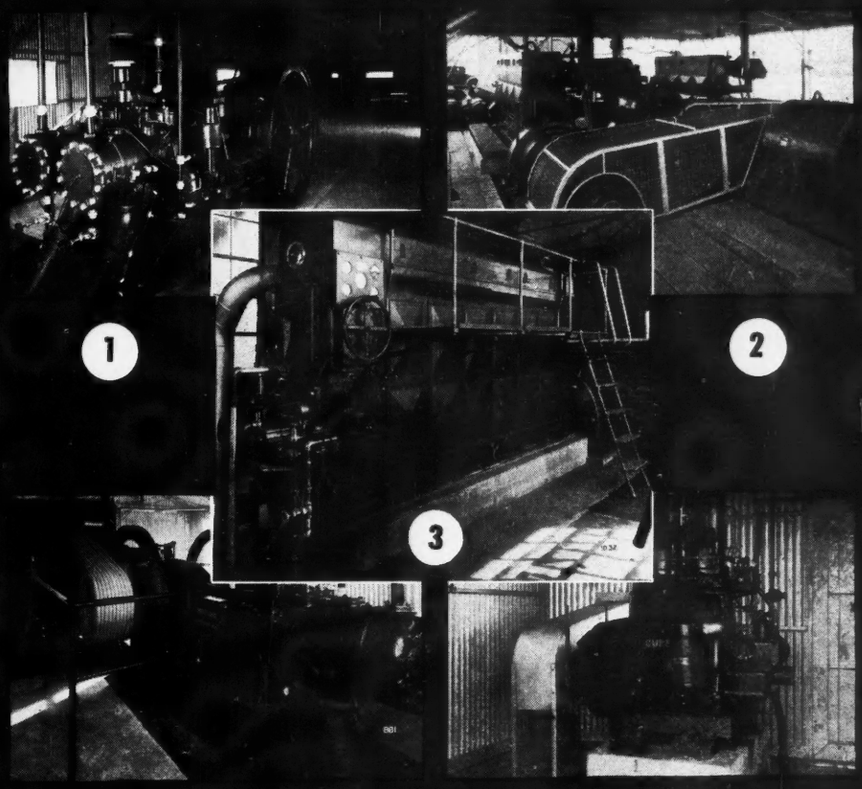
**ALBERT BROWN,** who was with Oil Well Supply Company for 40 years, the last 20 years serving as vice president and general manager of the Oil Well Supply Company of California, with headquarters in Los Angeles, died the night of December 19 at his home in Los Angeles. Brown was 72 years of age and retired in 1926. He was a director in the Bank of America, a 32nd degree Mason, a Knights Templar, and a member of several clubs. Brown was born in Mexico, New York, and is survived by his widow and one daughter.

## Smith Selling

E. L. SMITH

**E. L. Smith of Mexia, Texas, president of E. L. Smith Oil Company, who announced December 21 that 225,000 shares of the company's stock had been optioned to Lion Oil Refining Company of El Dorado, Arkansas, for $8.50 per share. The option expires April 1, 1937. Smith, a colorful figure in several Balcones Fault field plays, announced 200 producing wells, approximately 2000 barrels daily production, and about 2500 developed acres in Archer, Brown, Callahan, Crockett, Glasscock, Hutchinson, Gregg, Montague, Navarro, Rusk and Upshur Counties are owned by the company.**

# Superior GAS AND OIL ENGINES FOR EVERY REQUIREMENT OF THE OIL INDUSTRY



Type "C" for heavy pumping on beam or power, etc. 25, 30, 40, 45 and 50 H. P.

Type "BT" twin for large pumping powers, compressors, etc. 75, 100, 120 and 160 H. P.

Types "FA", "GA" and "M" vertical 2-cycle, medium speed, multi-cylinder. For geared pumping units, powers, etc. Combine slow speed ruggedness, simplicity and dependability with high speed flexibility, compactness and ease of installation. 30 to 235 H. P.

Rotary drilling rigs, small and large, for wells of any depth up to 12000 feet. Mechanical or electrical drive. Cable tool drilling rigs.

Either gas or oil fuel—engines are convertible.

Diesels in slow, medium and high speed models for every kind of stationary, portable and marine service. 20 to 800 H. P.

Direct driven compressor units for natural gasoline plants, gas boosting, gas lift, etc.

* * *

No. 1—Type BT on bandwheel power.

No. 2—Large Diesel-Electric Rotary Drilling Rig.

No. 3—400 H. P. Diesel on pipe line.

No. 4—Type C on beam well.

No. 5—Type GA on back crank pumper.

THE NATIONAL SUPPLY COMPANY NSCO REG. U. S. PAT. OFF. OF DELAWARE

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# *Outlook Is Good*

## BYLES SEES CONTINUATION OF PROGRESS DURING 1937

NEW YORK.

THE oil industry is entering 1937 in good condition, with production and refining activity expected to remain at record levels due to the largest demand in history, in the opinion of Axtel J. Byles, president of the American Petroleum Institute, who released the following year-end statement:

"The petroleum industry enters 1937 with its house in good order. It has expectations of a growing demand for petroleum products, and offers every assurance that the progress made in 1936 in establishing industrial stability, scientific research, and improved service to the public will continue.

"Preliminary reports for 1936 indicate that United States production of crude oil, refinery runs to stills, and motor fuel consumption reached new highs. Crude oil output is estimated at 1,092,600,000 barrels, or eight percent above 1935, and slightly above the previous record output of 1929. Increased demand for refined products, particularly motor fuels and lubricants, lifted to an estimated 1,063,000,000 barrels the total quantity of crude oil run to refinery stills. This total is some 100,000,000 barrels above 1935, and 17.7 percent above the previous high of 1929.

### Big Consumption Increase

"Total domestic consumption of motor fuel is estimated at 20,118,000,000 barrels, or 10 percent above the 1935 peak. This should be a boon to depleted governmental treasuries, which through retail sales taxes on gasoline, now averaging nearly 40 percent, derive the largest financial benefit from the production and consumption of this commodity.

"The increased demand for petroleum products, coupled with orderly production under cooperation between the industry and the Interstate Oil Compact authorities, served to liquidate crude oil inventories to a satisfactory extent.

### New Discoveries Sufficient

"Satisfactory progress is being made by the industry in assuring continuance of its ability to meet growing demand. New discoveries in 1936 were sufficient to offset depletion. Application of improved technique to drilling and development operations minimized physical waste and supplemented the helpful work of the Interstate Compact Commission. Practical conservation of petroleum resources further was promoted by substantial improvement in refining efficiency, so that a consistency larger quantity of refined products of better quality is being obtained from a smaller quantity of crude.

"There is no longer any doubt that the industry's investment of more than $10,000,000 annually in research is paying substantial dividends in conservation, improved products, and reasonable prices. The technologists have demonstrated their ability to expand reserves by improving the efficiency of producing and refining operations and to provide economical substitutes should it ever become necessary to suplement the natural supply.

"Outstanding in petroleum marketing has been the spread of the so-called 'Iowa Plan' whereby the operation of roadside service stations is entrusted to individuals. It is still too early to ascertain how this development, necessitated by the application of exorbitant chain-store taxes to centrally-controlled service stations, will affect the public, but it is obvious that the industry will be relieved of the costly losses attending company operation of many retail outlets which established precedents for complete and generous service.

"The industry, which employs about 1,000,000 workers, has increased employment approximately by 200,000 since the depression low-point. Wages higher in purchasing power even than those of 1929 are being maintained, despite a reduction of around 30 per cent in working hours. The industry's total 1936 payroll is estimated at $1,500,000,000.

"Generally speaking, 1936 was a comparatively prosperous year."

# *Conditions Good*

## FARISH SAYS INDUSTRY'S BALANCE TO HOLD IN 1937

NEW YORK.

THE petroleum industry showed steady improvement in all phases of its operations during 1936, and these conditions should prevail during 1937, in the opinion of W. S. Farish, chairman of the board of Standard Oil Company of New Jersey, who issued a year end review statement, which follows:

"Being a young industry in an expanding field, the petroleum business makes new records each year. So it is in keeping with previous summarizations to report that 1936 saw a new high in domestic crude oil production. For the first time the total passed the billion barrel mark, repeating the previous year's increase of substantially 10 percent.

### New Reserves Equal Demand

"Despite this tremendous draft, the industry about held its own in the matter of reserves, but gained no ground since the new discoveries were barely equal to the year's consumption. The United States is prodigal in her contribution to the world's oil requirements. This year again we produced 60 percent of the total, increasing our withdrawals in relation to proven reserves more rapidly than other countries.

"Two factors enabled the industry to work a steady improvement in all phases of its operations. These were first, more effective regulation of production by the states and second, an increase in gasoline demand of nearly 10 percent, with an even greater gain in consumption of gas oil, distillate fuels and residual fuel oils. These influences enabled the industry to show the best financial results in some seven years.

"Not that earnings are high, either by comparison with other good years, or in relation to investment, or to volume of business. Profits in 1936 have been fair; perhaps I should say very fair considering the average for all industries. They were not evenly distributed, being for the most part confined to production and transportation operations. The refiners and marketers had the satisfaction of doing better than formerly, in some instances being able to operate at a profit. Crude prices were stable, returning from 10 percent to 12 percent more to the producer than in 1935.

"The industry has run into higher production costs, the increases being due mainly to fresh taxes, reduction of individual well production and advancing charges for materials. The outlook is for further increases in producing costs.

"I look for a big gain in the consumption of oil fuels this winter. This will be particularly evident in furnace oil, since sales of domestic burners this year reached a new high of 175,000—more than the combined sales of 1932 and 1933 and about four-fifths of the combined sales of 1934 and 1935. The threat to the industry in this increased demand is that the refiners may increase gasoline stocks excessively in the process of running their plants to meet the demand for fuel oil.

### Earnings to Continue Good

"At this writing, I see nothing to prevent the industry from having at least as good earnings in 1937 as it will report for 1936. However, there is no indication of relief from taxes or of the rigors of competition. We should see a higher price for all fuel oils relative to gasoline. I expect to see crude production balanced to meet demand. This will mean less inducement to refiners either to cut prices or to run more oil than is needed. The conservation authorities in the producing states have been commendably conscious of their responsibility. Out of this has grown a better spirit of cooperation in the effort to gear production to consumer demand."

# This should have been A NEW YEAR'S GREETING!

We started out to make this advertisement just another Happy New Year message. But the more we thought about how swell everybody had been to us and how our loyal customers had made this a banner year for us . . . Well . . . we just kinda choked up and lacked for words. So you'll have to believe us when we simply say that every one of us from the boss-man down to the foundry helper join in wishin' you the most of everything for the new year. We also hope to serve you even better in 1937, and in the same friendly fashion we have in the past.

## a HELP for the new year!

So that you might have a better understanding of our services and products we have taken a special section in the New 1937 Composite Catalog. Here you will find our complete line fully pictured and described. A specially bound reprint of this section is now available and will be sent you on request. Just drop us a card or letter or phone our nearest branch store.

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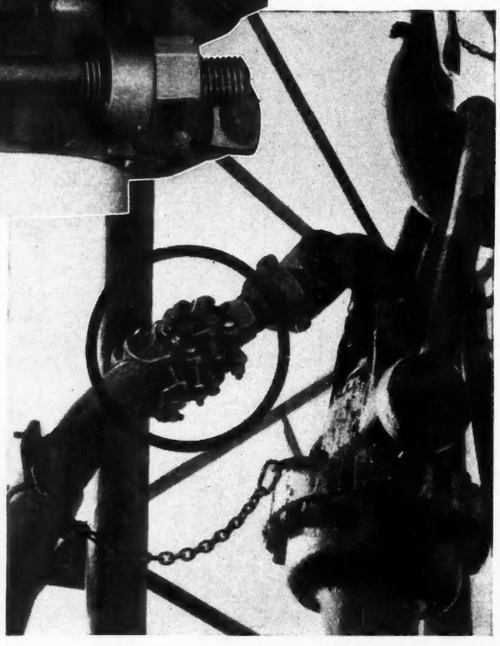

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# *Clark Outstanding Strike of North Mid-Continent*

**Opens for deep exploration vast undeveloped district in south Kansas and north Oklahoma in which geological and drilling problems are apt to be difficult**

By FLOYD SWINDELL

THE completion of Olson Drilling Company's Morrison 3, C SE SW 17-32s-21w, Clark County, southwestern Kansas, as a 2358-barrel Viola lime well, opens to exploration a vast undeveloped area and probably should be recorded as the most important discovery in north Mid-Continent during 1936. The new area, although of considerable interest geologically, offers a wide number of other interesting problems which should be brought to the attention of those companies who anticpate exploratory work and those manufacturers and distributors who will be called upon to supply equipment.

### Early History of Area

Previous development in this part of the state, although unfruitful of production other than gas at relatively shallow depths, has revealed the possibility of a major geological phenomena, trending north-south or northeast-southwest and probably ranking in importance with other of the great structural features of the northern Mid-Continent. Subsurface control is meager and geophysical methods have not been exceedingly successful and it is, therefore, impossible to predetermine, even in a general way, the nature of the regional structure. The leasing play has encompassed parts of Clark, Meade, Comanche, Kiowa, Ford and Gray counties in Kansas and Harper, Beaver, Woodward and Ellis counties in Oklahoma.

The first development in the Morrison area was in the latter part of 1923 when Watchorn Oil and Gas Company started drilling Morrison 1, SEc N½ NE 20-32s-21w, more than 125 miles from the then nearest oil production in Kansas. The test was located on an east-west trending surface structure, something over two miles wide and five miles long. Drilling was commenced with cable tools on December 21, 1923 and the test completed as a dry hole at 5679 feet on September 26, 1926. Most of the sands and sandy limes contained water, but several showings of oil and gas were encountered, and at 5318 feet the test was estimated to have been good for 25,000,000 cubic feet of gas. Considerable difficulty was had with caving beds and it was necessary to set six strings of pipe, including the 150 feet of 20-inch surface pipe.

The second test was commenced on December 12, 1926. It was this test which gave the first real intimation of the drilling problems that subsequently would be encountered. Four holes were drilled at this location before the undertaking finally was abandoned. The first hole, Watchorn Oil and Gas Company's Stephens 1, NW NE NW 21-32s-21w, slightly over a quarter-mile northeast of Morrison 1, was drilled to 3930 feet, where the casing line broke and dropped 125 feet of pipe to the bottom of the hole. The fishing job was unsuccessful and the hole abandoned on February 16, 1927. Less than a month later another hole was commenced. Rotary fluid returns were lost at 411 feet and the hole abandoned when operators could not reestablish circulation. The third hole at this location was commenced April 1, 1927. Circulation was first lost at 28 feet and again at 355 feet, where the hole was abandoned. The fourth hole was commenced on April 22, 1927, and abandoned on September 10, 1927, when 2000 feet of

drill pipe was dropped to the bottom of the hole at 2497 feet.

Stephens 3, C NW NW 21-32s-21w, was commenced on March 28, 1928, and drilled with rotary tools to 4840 feet, where it was standardized. At 5443 feet the bit encountered a sand estimated capable of making 5,500,000 cubic feet of gas and on November 14, 1928, was completed for 20,000,000 cubic feet of gas and one barrel of oil per day at 5475 feet. Due to the remote location this well did not attract major attention, but six months later Watchorn Oil and Gas Company started Morrison 2, C NW NE 20-32s-21w, slightly less than a half-mile west of the original test. Drilling was commenced with cable tools on May 22, 1929, and the test completed as a dry hole at 6906 feet on March 11, 1931. This established a drilling depth record which has not yet been exceeded in Kansas. The most important contribution of this test was to establish the presence of Wilcox sand which to date has yielded commercial oil only in a very few areas in Kansas.

Interest subsided and no further development was made until late in 1935, when Olson Drilling Company took over the huge block and started deepening Stephens 3, the well which had been completed for 20,000,000 cubic feet of gas. Deepening was commenced on August 14, 1935, and the hole abandoned on January 21, 1936, after being drilled to 6800 feet, missing Wilcox sand and finding Arbuckle (Siliceous) lime dry. Shortly thereafter Olson Drilling Company started reconditioning Morrison 2. The hole was plugged back to

**Surface structural conditions in the Clark or Watchorn area as interpreted by Watchorn Oil & Gas Company, which pioneered in the area. The map shows the region contoured on 20-foot intervals. Slumping of the surface beds makes geological interpretation difficult. Arrow points to Olson Oil Company's Morrison 3, discovery Viola lime producing well.**

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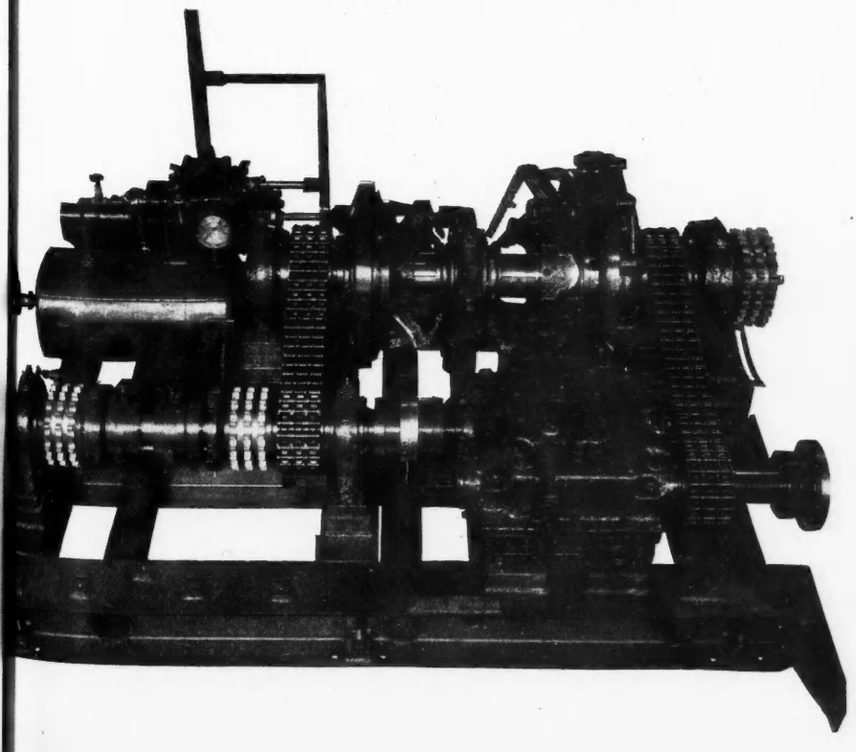

# BALDWIN

*ask the Driller .. He Knows*

**Picture at left illustrates Baldwin-Duckworth heavy multiple width Roller Chains on a Sheldon Diesel Transmission Unit. These Multiple Roller Chains and Sprockets have successfully solved hundreds of varying oil field problems.**

Viola lime, a string of casing cemented and the well started flowing when water broke in around the shoe. The operators have recemented this string and are still trying to complete the well.

Morrison 3, the discovery well which has recently brought a wide revival of interest in the area and which has precipitated an extensive leasing campaign, was commenced in July of this year and completed for 2358 barrels of 39-gravity oil on November 17, 1936. Production is coming from Viola lime topped at 6468 feet and penetrated to 6486 feet. After acid treatment the well was bailed to 2200 feet below the derrick floor before free oil started showing in the hole. Three-inch upset tubing was run and the hole cleaned with a tubing swab to induce flow.

### Geology is Interesting

Kansas has been divided[1] into five major geologic provinces, the Chautauqua Arch, in the southeastern part of the state; the Forest City Basin in the eastern and northeastern, separated from the Salina Basin to the west by the Nemaha Granite Ridge; the Central Kansas Uplift in the central part of the state; and the Dodge City Basin, which includes most of the western third of the state. The Morrison area is situated in the southeastern part of the Dodge City Basin. The surface beds consist of post-Permian shales, thought to be of Kiowa age, and the younger beds of the Permian system. As heretofore indicated, the area has not been widely explored and but relatively little is known of the subsurface section and structural conditions. Since Watchorn Oil and Gas Company's Morrison 2 is the deepest well in the state and encountered the full section, its log is presented in Table 1.

Driller's logs of the wells have been plotted and an attempt made to correlate the section. The logs do not correlate well and it is evident that but little success can be anticipated in the absence of careful study of the formation cuttings. Several corrections in total depth in the log will be noted. This test was drilled before it became the practice of the industry to survey holes for deviation from vertical and these corrections are based on sand line or steel line measurements. Upon reentering this well, Olson Drilling Company took a reading at about 6500 feet and found the hole to be seven degrees off vertical. When Stephens 3 was deepened, several readings were taken and a vertical correction of 75 feet applied down to the top of the Mississippian. With crooked holes and logs which do not appear satisfactory, it is impossible at present to interpret subsur-

[1] Dott, Robert H. Supplemental map, THE OIL WEEKLY, February 11, 1935.

**TABLE 1**

**Log of Morrison 2, deepest well in Kansas**

**Elevation 2163 feet**

| Formation | Depth | Formation | Depth | Formation | Depth | Formation | Depth |
|---|---|---|---|---|---|---|---|
| Red Rock | 0–205 | Limestone | 2698 | Broken limestone | 4596 | Sandy gray limestone | 5401 |
| Limestone | 250 | Broken limestone | 2718 | Limestone and shale | 4617 | Sandy limestone | 5411 |
| Broken limestone | 275 | Sand and limestone | 2728 | Limestone | 4667 | Hard sand | 5416 |
| Red rock | 280 | Hard limestone | 2757 | Shale and limestone | 4687 | Hard sandy limestone | 5429 |
| Limestone | 305 | Limestone | 2769 | Limestone | 4700 | Sandy limestone | 5434 |
| Red rock | 325 | Sandy limestone | 2794 | Broken limestone | 4734 | Limestone | 5455 |
| Salt | 575 | Limestone | 2851 | Limestone | 4744 | Soft white limestone | 5492 |
| Red rock | 580 | Broken limestone | 2876 | Broken limestone | 4767 | White limestone | 5520 |
| Red rock and salt | 593 | Limestone | 2880 | Limestone | 4781 | Soft gray limestone | 5566 |
| Limestone | 598 | Hard limestone | 2897 | Sandy limestone | 4792 | Sandy limestone | 5607 |
| Broken limestone | 625 | Limestone | 2931 | Limestone | 4816 | Limestone | 5671 |
| Red rock | 652 | Very hard limestone | 2932 | Broken limestone | 4830 | Sandy limestone | 5679 |
| Limestone | 655 | Limestone | 2937 | Limestone | 4856 | Limestone | 5687 |
| Red rock | 680 | Hard limestone | 2952 | Broken limestone | 4876 | T.D. corrected to | 5719 |
| Red rock and salt | 715 | Limestone | 3102 | Limestone | 4900 | Hard sandy limestone | 5721 |
| Limestone | 728 | Hard limestone | 3107 | Broken limestone | 4910 | White limestone | 5736 |
| Red rock and salt | 775 | Limestone | 3126 | Limestone | 4920 | White sandy limestone | 5788 |
| Limestone | 790 | Shale | 3136 | Sandy limestone (Hard and sharp) | 4920 | Limestone and sand | 5802 |
| Red rock | 820 | Broken limestone | 3196 | | | Limestone | 6105 |
| Limestone | 825 | Shale and limestone | 3224 | Limestone | 4948 | Shale | 6111 |
| Red rock | 860 | Shale and shells | 3450 | Broken limestone | 4958 | Hard limestone | 6114 |
| Limestone | 865 | Broken limestone | 3472 | Limestone | 4960 | Limestone | 6207 |
| Red rock | 965 | Shale and shells | 3570 | Sandy limestone | 4966 | T. D. corrected to | 6211 |
| Limestone | 970 | Limestone | 3600 | Limestone | 4977 | Sand (Water) | 6227 |
| Red rock | 1010 | Black shale | 3640 | Broken limestone | 5020 | Sand, shale and slate | 6240 |
| Limestone | 1020 | Shale and shells | 3745 | Limestone | 5027 | Broken sand | 6248 |
| Shale and shells | 1100 | Hard limestone | 3765 | Sandy limestone | 5029 | Sandy limestone | 6253 |
| Red rock, salt, shells | 1140 | Shale and shells | 3800 | Limestone | 5030 | Limestone | 6385 |
| Shale and shells | 1160 | Limestone | 3810 | Sandy limestone | 5044 | Shale | 6420 |
| Sticky shale | 1170 | Shale | 3830 | Limestone | 5048 | Limestone | 6424 |
| Shale and shells | 1265 | Broken limestone | 3907 | Shale | 5055 | Shale | 6470 |
| Red rock and shells | 1400 | Slate | 3923 | Limestone | 5087 | Limestone | 6471 |
| Sticky shale | 1420 | Limestone | 3933 | Sandy limestone | 5097 | Shale | 6480 |
| Red rock | 1440 | Shale | 4025 | Limestone | 5141 | T. D. corrected to | 6489 |
| Sticky shale and shells | 1480 | Hard shale | 4035 | Broken limestone | 5150 | Limestone | 6518 |
| Red beds and shells | 1505 | Slate | 4050 | Limestone | 5160 | White limestone | 6538 |
| Shale and limestone | 1530 | Shale | 4092 | Broken limestone | 5170 | Limestone | 6547 |
| Sticky shale | 1575 | Shale and limestone | 4114 | Limestone | 5187 | Gray limestone | 6582 |
| Red rock and shale | 1620 | Slate | 4142 | Broken limestone | 5213 | Sandy gray limestone | 6697 |
| Shale | 1640 | Shale and limestone | 4147 | Limestone | 5262 | Green shale | 6700 |
| Shale and shells | 1765 | Shale and shells | 4169 | Broken limestone | 5280 | Green shale and shells | 6708 |
| Shale, salt, shells | 1815 | Shale and limestone | 4229 | Limestone | 5289 | Blue shale and limestone shells | 6729 |
| Sticky shale and gyp | 1840 | Limestone | 4241 | Broken sandy lime | 5299 | White sand | 6754 |
| Broken limestone | 1880 | Shale and limestone | 4245 | Sandy limestone | 5304 | Brown limestone | 6757 |
| Shale and lime shells | 1910 | Limestone | 4250 | Shale and shells | 5314 | White sand | 6761 |
| Shale and salt | 1935 | Shale and shells | 4297 | Limestone and shale | 5326 | Sandy limestone | 6771 |
| Shale | 2090 | T. D. corrected to | 4340 | Shale and shells | 5340 | Blue shale and iron pyrites | 6795 |
| Shale and shells | 2370 | Shale | 4380 | Shale (Cored) | 5341 | Blue shale | 6800 |
| Limestone | 2380 | Hard limestone | 4423 | Black and green shale and limestone (Cored) | 5349 | Limestone | 6803 |
| Hard limestone | 2400 | Broken limestone | 4440 | | | Blue shale | 6807 |
| Shale and shells | 2425 | Hard limestone | 4450 | Black limestone and brown shale | 5359 | Shale | 6814 |
| Shale | 2437 | Limestone | 4472 | | | Sandy shale (Caving 6800–6814) | 6820 |
| Shale and shells | 2482 | Hard limestone | 4503 | Blue and brown shale | 5365 | Shale | 6823 |
| Shale | 2527 | Broken limestone | 4519 | Shale | 5370 | White sand | 6835 |
| Shale and shells | 2562 | Limestone | 4532 | Black sandy shale and white limestone | 5380 | Shale | 6842 |
| Broken limestone | 2585 | Broken limestone | 4540 | | | Shale and sandy lime | 6850 |
| Limestone | 2610 | Shale and shells | 4557 | Blue limestone | 5391 | Sandy limestone | 6865 |
| Hard limestone | 2634 | Hard limestone | 4562 | White limestone (Cored 5370–5380 and 5391–5394) | 5394 | Gray limestone | 6906 |
| Shale and limestone | 2664 | Shale and limestone | 4578 | | | Total depth 6906 Dry and abandoned. | |

# BUT UNAFLO MADE PERFECT SHUT-OFF

IT was a tough test for an oil well cement. Well depth was 8700 feet—the hole was tight, and 37 degrees off vertical. Temperature was 206° F. "No oil well cement can do a satisfactory job here," said the operator, "because the casing will groove the lower wall of the hole and the cement will be on the upper side of the casing." But UNAFLO made a perfect shut-off. Now this operator uses UNAFLO for every repair job and for every production string.

On *your* next job, try UNAFLO. It flows easier—sets slower—has a safety factor adequate to protect your well investment!

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1 Gives you more time to get it down.
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face conditions dependably. A correlation between Morrison 2 and Stephens 3 indicates the possibility that the latter did not actually encounter Arbuckle (Siliceous) lime as was thought by the operators.

### Drilling Problems

On the basis of the log presented herein, Morrison 2 penetrated the following: red beds, 16.76 percent; sandy limestone 2.11 percent; limestone, 40.71 percent; shale 22.13 percent; slate, 9.48 percent; salt 5.54 percent; sand, 2.23 percent; broken limestone, 0.53 percent; and sandy shale, 0.04 percent. Adding together all beds which contained any calcium carbonate, it will be noted that the section is almost 50 percent limestone. In the Lansing-Kansas City section, many extremely hard beds of limestones are encountered. Some of these are as much as 100 feet in thickness and can be safely drilled at not to exceed one or two feet per hour with rock bits. The beds tend to become harder nearer the base of this series. While no difficulty was experienced in keeping the hole straight in the recently completed Morrison 3, more than ordinary care must be exercised, as is indicated by the records from Morrison 2 and Stephens 3.

The paramount difficulty, and one which is experienced more or less generally throughout western Kansas, is the subnormal pressure condition which makes it extremely hard to prevent loss of rotary circulation. In the drilling of the earlier wells, circulation was lost at as shallow depth as 28 feet and in Morrison 3 this difficulty persisted throughout most of the hole. It was particularly trying from the top of the Lansing-Kansas City series to the bottom of the hole. Operators resorted to the use of large quantities of cotton seed hulls which seemed to produce the fairly satisfactory results. An attempt was made to keep the rotary fluid as light as possible and still retain the physical properties necessary to the conduction of cuttings from the bit to the surface. In Morrison 3, top of the Lansing-Kansas City was encountered at 4390 feet. At this depth a hole full of clear water would exert a hydrostatic pressure of approximately 1900 pounds per square inch. At 6500 feet this figure would be increased to approximately 2800 pounds per square inch, a figure which far exceeds any formation pressure known ever to have existed in any of the producing horizons of Kansas. It is extremely difficult to obtain a mud of the proper physical characteristics that will weigh less than 9 to 9½ pounds per gallon. The use of 9½-pound mud will result in hydrostatic pressures ranging from approximately 2200 to 3200 pounds per square inch from top of the Lansing-Kansas City downward. With these difficulties to face, it is doubtful that even an efficient operator can drill a well in less than 75 days, assuming that the best of rotary equipment is adopted.

Another difficulty of equal importance is the failure to obtain returns when cementing casing. In reconditioning Morrison 2, Olson Drilling Company cemented casing by the dump bailer method. Its lack of success is indicated by the fact that water broke in around the shoe before the well could be completed. In considering the mud problem, the operator also must take into account the effect of several thick salt beds encountered in the Permian section. This, however, is a problem which has been faced in many western Kansas pools and one which can be handled by the exercise of the proper care of the rotary fluid.

Upon the basis of present knowledge of the area, it appears that future drilling may be done by combining the two major methods as has been done in some of the pools of New Mexico and West Texas. Where extremely hard beds are encountered relatively near the surface, the best drilling speeds probably can be obtained through the use of cable tools. Likewise, when very porous beds are encountered and the operator finds it impossible to maintain circulation, it seems logical that cable tools can be called upon to solve the problem. Whether these changes can be economically made from rotary tools to cable tools and back to rotary, the writer does not know.

### Development Possibilities

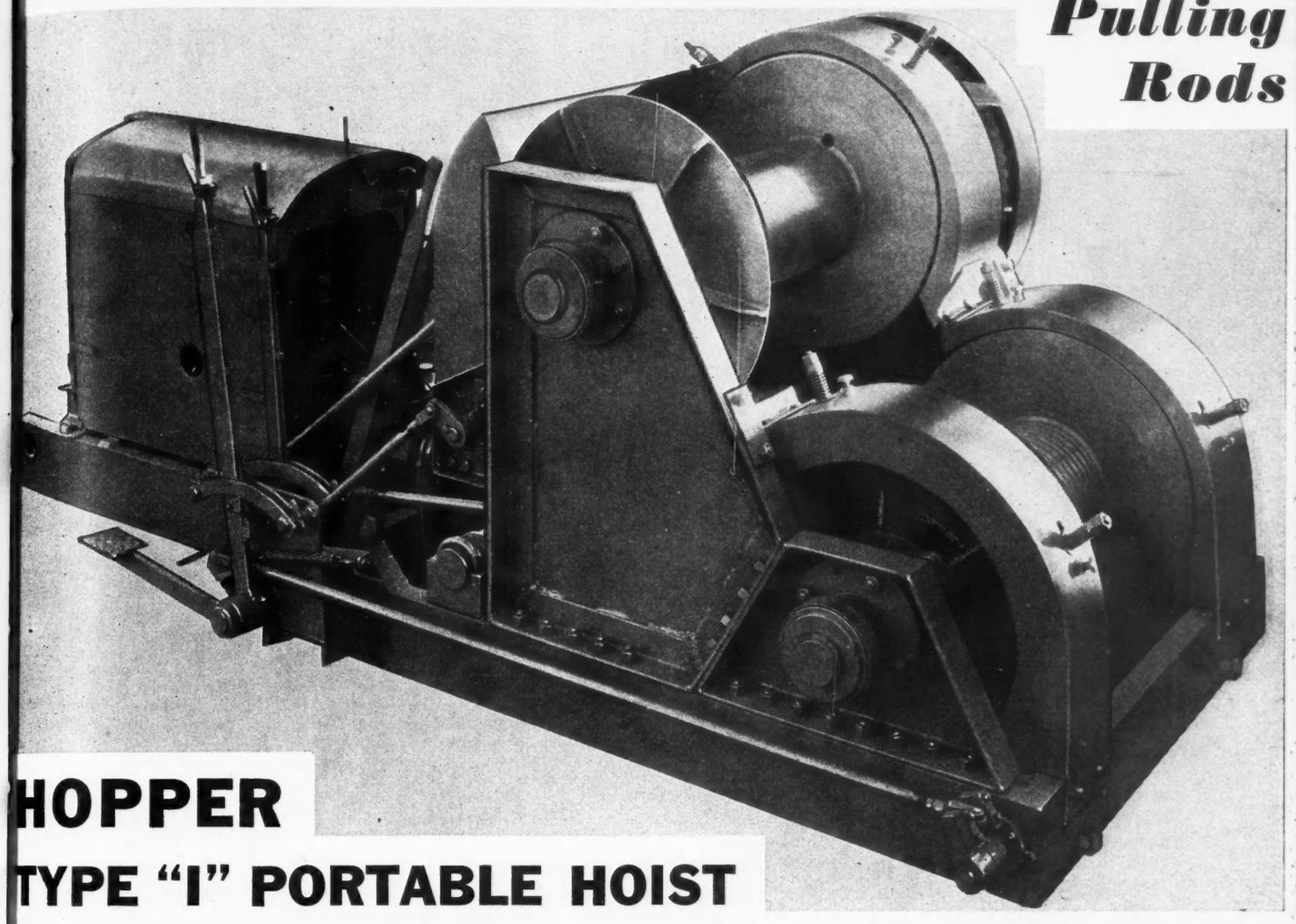
As heretofore stated, the discovery of commercial production from Viola lime and the proof of presence of Wilcox sand in the Morrison area, is considered of major importance. Lack of a satisfactory market outlet undoubtedly will retard development unless some purchaser builds a trunk line into the area. Such a move does not seem probable in view of present conditions. The nearest point at which an oil trunk line could be tied into would be in the Cunningham area, over 70 miles to the northeast. However, the Kansas petroleum industry, even in the face of its sensational successes during the past two or three years, is still on the search for new reserves. Many operators who have not interested themselves in western Kansas because most of the production is from limestone, would come into this new area in the event that important sand production should be found.

The leasing play, as indicated by blocks taken recently, is based on the presumption of a north-south or northeast-southwest trending regional high. Although Olson Drilling Company is the largest lease owner, several major companies have taken acreage in quantity and the area should be most active during the coming year. It is not the intention of the writer to discourage interest in the play through the enumeration of the difficulties that will be encountered. On the other hand it is the purpose of this article to call attention to an area which undoubtedly will play a major part in the establishment of future reserves, both in southwestern Kansas and northwestern Oklahoma. That these difficulties will be successfully overcome will not be doubted by those who know the history of the development phase of the petroleum industry.


## ANNUAL INDEX

**The annual index to THE OIL WEEKLY'S editorial content for the preceding year will, as usual, appear in the first issue of the new year—which will be January 4, 1937.**

# ECONOMY.... and a Better Job in Pulling Rods



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**EVILS ATTENDING**

# *Unnecessary Drilling In Proven Oil Fields*

**AND THE REMEDY**

THE problems under discussion are those arising from unnecessary or excessive drilling in proven fields as distinguished from any problems resulting from the drilling of "wildcat" wells. The problems here under discussion have arisen out of the fact that along with an increase in the number of oil fields which have been discovered, there has been a progressively increasing number of unnecessary wells drilled in many fields, and the industry is waking up to the fact that millions of dollars have been expended in the drilling and operation of many more wells than are necessary to accomplish the same amount of recovery from day to day, as well as ultimately. There are some who fear that if the present unnecessary drilling continues, and if, at the same time, production is to be held within the limits of reasonable market demand, we may soon come to the time when practically all wells will have allowables equal to or lower than the marginal well figures as fixed by statutes in some states. Should such rate of drilling still continue, the allowables would generally decrease below the marginal well figures should there be no increase in the reasonable market demand to take care of new wells. Such a situation, considered in the light of economic and legal principles which clearly are applicable, should, beyond question, be avoided.

The committee wishes to make it clear, however, that, in its opinion, and in spite of optomistic estimates which have been made as to the great size of the nation's petroleum resources, the search for new reserves must continue, and hence there is no justification in undertaking any attempt to restrict "wildcatting," regardless of the necessity of allocating a part of the allowable of the state to new fields which may be discovered. Our present discussion is restricted to the evils of unnecessary or excessive drilling in proven fields, and the remedy therefor.

### The Conditions

The regulation of the production of oil under state conservation statutes substantially as they now exist, is likely to continue for many years, with the probability that somewhat similar systems will be adopted in other states to meet comparable situations.

As a part of the system of production control in each state having large reserves, the administrative body will doubtless continue to fix a top allowable for the state, which top allowable will be the sum of the allowables for the various fields in the state. The administrative body will then continue to allocate among the producers in the field the allowable production for the field. The problem of fair allocation among producers will, therefore, constantly be presented and it is clear, as will be discussed in subsequent paragraphs, that the method of allocation greatly affects the number of wells which are drilled.

Unless conditions materially change, the top allowables for many states, especially for Kansas, Louisiana, New Mexico, Oklahoma, and Texas, are likely to be about the same as those which are current, and the allowable in each of such states will, for some time, be considerably below the amount which could and would be produced unless restriction on production were imposed.

Since the top allowable for each state is relatively inelastic, unless conditions materially change, and since the top allowable has not been, and likely will not be, increased in proportion to the finding of new reserves, or in proportion to the number of new wells drilled, it follows that allowables for new wells, whether in old or in new fields, must largely be taken from allowables theretofore given to older fields and wells. It is clear that there is a downward tendency in per well allowables in most states, and that the critical point has virtually been reached, or will very shortly be reached if

**THE accompanying article is a report made by the Independent Petroleum Association of America's sub-committee of nine on "Unnecessary and Excessive Drilling," which has been adopted by the association's committee on "Balance of Supply with Demand."**

**The committee of nine was composed of three engineers, three lawyers and three operators, consisting of the following persons:**

***Engineers***

**Don R. Knowlton, Phillips Petroleum Company, Bartlesville, Oklahoma; C. E. Yeager, Texas Pacific Coal & Oil Company, Fort Worth, Texas; and J. R. Pemberton, oil umpire, State of California, Los Angeles.**

***Lawyers***

**W. P. Z. German, Skelly Oil Company, Tulsa, Oklahoma; Villard Martin, attorney, Tulsa; and Robert E. Hardwicke, of Hardwicke, Brelsford & Cheek, attorneys, Fort Worth, Texas.**

***Operators***

**A. S. Ritchie, McPherson Drilling Company, Wichita, Kansas; C. P. McGaha, Fain-McGaha Oil Corporation, Wichita Falls, Texas; and W. S. Welch, Flynn, Welch & Yates, Inc., Artesia, New Mexico.**

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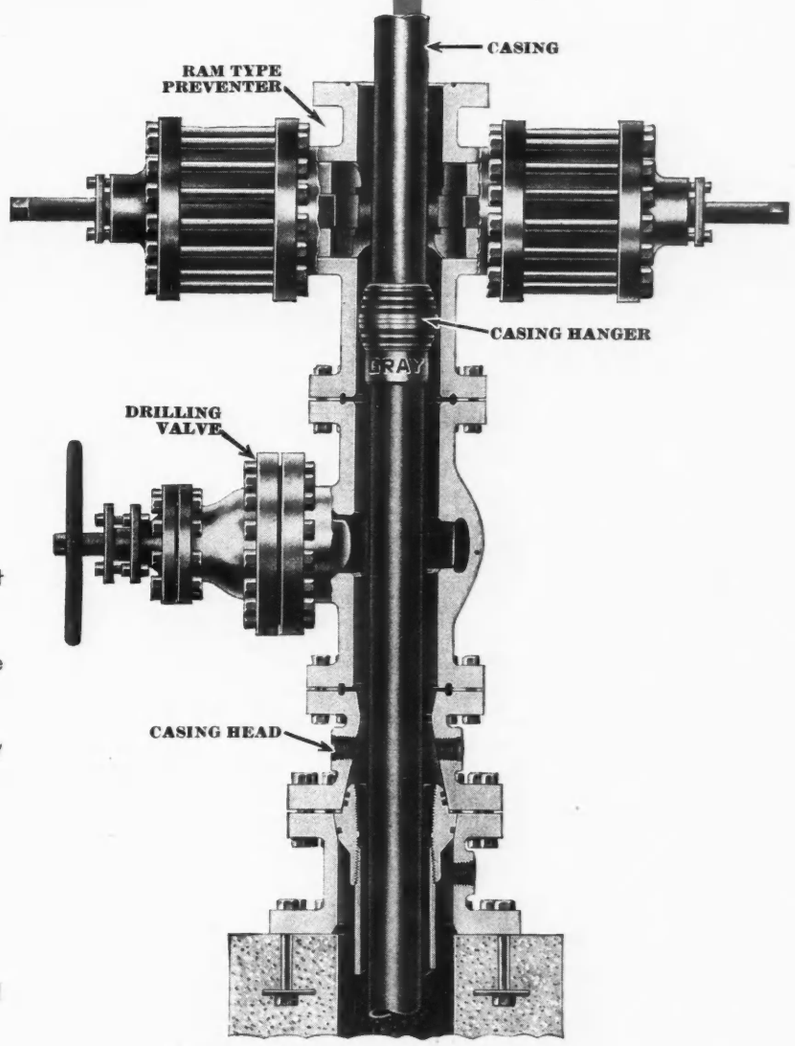


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the rate of drilling is not materially decreased, or if the total allowable is not materially increased with no attending cut in price. Temporary relief would follow a large price advance though the total allowable should remain at substantially the present level, but only too soon the continued drilling of unnecessary wells would bring the per well allowable, and the more important factor of per well income, down to the critical level again.

The situation in Texas furnishes an illustration. The trend in Texas and the relative inelasticity of the average monthly allowable fixed for the state are shown by data, repeated below, given by Wm. E. Hubbard, in his paper, "Economics and Well Spacing in Texas," which was read at the October, 1936, meeting in Fort Worth of the American Institute of Mining and Metallurgical Engineers. The paper has been published in full in THE OIL WEEKLY (October 26, 1936). The data referred to relative to five active areas in Texas, being the Gulf Coast, East Texas, West Texas, and Districts 2 and 4 of Southwest Texas, and are shown in Table 1.

The fact situation in Texas is also reflected by a report of the Engineering Department of the Railroad Commission of Texas released in October, 1936. This report shows that there were 65,981 producing wells in Texas on October 1, 1936, of which 30,169 were classified as marginal wells. There were approximately 26,000 flowing wells in October, 1936. In the first nine months of 1936, the report shows that in Texas 6,879 producing wells were completed, and only about 700 wells were abandoned. The complications arising from the increasing number of wells in the face of a state allowable more or less stationary were discussed by Colonel E. O. Thompson, chairman of the Railroad Commission of Texas, in an interview reported in the Oil and Gas Journal of October 1, 1936. The average per well allowable, as of September 1, 1936, was given in the interview as 17.53 barrels, with the trend constantly downward.

A somewhat similar situation, as outlined above, exists in Oklahoma, Kansas, and New Mexico, and to a lesser extent elsewhere. Shortly stated, there are too many wells and not enough allowable if production be limited to reasonable market demand, and somehow drilling must be slowed up to prevent distressing results. Obviously, the size of the per well average in any state could be increased by merely increasing materially the state's top allowable, but always at the hazards which are created by exceeding the figure which is proper for the state, such as: probability of causing retaliatory or protective action by other states, or causing overproduction with its attending waste, together with lower price levels. Economically, the average producer, and indeed the entire industry, would likely be injured, instead of benefited, by a general increasing of allowables in an effort to cure the evil of low allowables. Most operators would prefer an allowable per well of 25 barrels worth $1.00 a barrel, than an allowable of 50 barrels worth 50 cents a barrel, or less.

Furthermore, unnecessary and excessive drilling has a tendency to create conditions which are destructive of the stripper well pools. The stripper wells are known as the backbone of the petroleum industry, and if the present saturnalia of drilling does not subside these wells are faced with the danger of premature, enforced abandonment. This would take place if the present allowables for these wells should be materially reduced, or if, by unreasonably increasing the allowables for the state or states to take care of new wells, the price of oil should go to lower levels.

It is generally recognized that much of the drilling in proven fields in most of the oil producing states can be classified as "unnecessary or excessive drilling" in that, from the wells already drilled or from a fewer number of wells properly spaced, approximately the same amount of oil could be recovered, therefore the drilling of additional wells did not, and will not, materially increase the ultimate recovery from the field. In other words, in most fields the data are amply sufficient at an early stage in the development of the field to determine with reasonable accuracy the efficient and economic drainage area of a well. The drilling of more than one well to drain such area results in excessive or unnecessary drilling as those terms are used herein.

Furthermore, if the allowables which must be given to the wells which are drilled only to the density resulting from only one well to each efficient drainage area are too low to justify the expense of such drilling, then the size of the unit or area should be increased. The unit would, let us assume, be materially increased in size, which would decrease the number of wells, increase the average per well allowable, and would permit a profit to be made. The unit in such an instance would be the efficient and the economic drainage area; a practical solution of conflict between engineering and economic factors. Perhaps later, under changed conditions, additional wells could profitably be drilled.

The unnecessary or excessive drilling already indulged in has not taken place because the operators, on the whole, believe that the larger the number of wells which are drilled in a field the greater will be the ultimate recovery from such field. The unnecessary wells have not been drilled on the theory that the cost of the drilling and continued operation of such wells will be justified because of the increase in the ultimate recovery from the pool as a whole, as distinguished from an increase in the allowable for the particular operator. It seems clear that the drilling of the unnecessary wells has taken place in proven fields, in those states where proration prevails, largely because the allowable production is allocated on a per well basis, or on some combination of factors which give excessive weight to the well, and which give too small a value to a comparison of recoverable reserves.

Under a per well method of allocation, or under a method similar in effect, a well on a 10-acre tract gets the same, or substantially the same, allowable as a simi-

**TABLE I**

| YEAR | Average No. of Wells | Total Daily Allowable | Daily Allowable per Well | Daily Allowable Rest of State | Total Daily State Allowable |
|---|---|---|---|---|---|
| 1933..... | 16,418 | 706,500 | 53.8 | 393,500 | 1,100,000 |
| 1934..... | 20,041 | 733,500 | 37.7 | 302,500 | 1,036,000 |
| 1935..... | 25,224 | 808,500 | 32.2 | 263,500 | 1,072,000 |
| Sept. 1, 1936. | 34,973 | 890,500 | 25.4 | 238,500 | 1,129,000 |

CHART FOR OBTAINING GRAVITY OF DRY CRUDE
FROM GRAVITY OF EMULSIFIED CRUDE
PETRECO
% Water in Emulsified Crude Oil
Example. A certain wet crude that contains 48.0% water, has a wet gravity of 18.0° API. The specific gravity of the water is 1.020. To find the dry gravity lay a rule on the intersection of 48.0% water with 18.0° API, and the specific gravity of the water 1.020. The rule cuts the gravity of oil scale at 29.4° API, which is the gravity of the dry crude oil.
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Houston, Texas

# A Chart for Determining Losses in Gravity of Emulsified Crude

Since crude oils are sold on a gravity basis, losses in the gravity of production from any cause may result in serious losses of revenue to the producer. Such losses frequently are due to emulsified production

The chart above is designed to determine approximately the potential losses from this cause For example: assuming the production contains 48.0 percent water of 1.020 specific gravity, and has a wet gravity of 18.0° API. The chart reveals the true gravity of the oil component of this crude to be 29.4° API, and therefore, the reduction in gravity due to emulsification is 11.4° API.

Proportionate losses due to emulsification also occur in the gravity of crude that tests within pipe line requirements It is important, therefore, that producers utilize this chart to check the production of all wells and leases in order to avoid unnecessary losses of this character.

A limited number of the charts on cards suitable for office and desk use, with instructions for using them, are available and will be supplied to oil company executives on request.

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lar well on an adjoining, similar 20-acre tract; and two wells on a 20-acre tract get double the allowable of one well on a similar 20-acre tract, though it be reasonably certain that one well in such field will efficiently drain 20 acres, and though it be reasonably certain that a 10-acre spacing in the field would not double the ultimate recovery which is possible under a 20-acre spacing, and though it be reasonably certain that there would likely be no increase whatever in ultimate recovery on a 10-acre spacing as compared to a 20-acre spacing.

There is quite a difference in principle between close spacing to get a high allowable under a per well basis of proration, as compared to close spacing to increase the ultimate production from the pool as a whole. The difference has not always been kept in mind.

Where, in the allocation formula, a premium is put on wells, especially where drilling is permitted on very small tracts, most of the operators must either drill unnecessary wells to get their fair share of the allowable or must suffer drainage in favor of the operators who have a lower density. Obviously, if the great majority of operators are forced to drill to a low density to get a fair allowable, the cost of the unnecessary drilling is enormous; and if all operators drill to the lowest density of any tract in the field, then, in most fields, the allowable per well becomes, or would become, very small, taking many, many years for most of the wells to pay out. Indeed, in most instances the income would not pay operating expenses. The point may be illustrated. The statement has often been made by reputable engineers that one well to each 20 acres in the East Texas field, properly spaced, and with production scientifically allocated, would result in a recovery of approximately as much oil as would take place under 10-acre, 5-acre, 2-acre or even 1-acre spacing. It has often been stated that the total number of unnecessary wells in the East Texas field may conservatively be fixed at 12,500. That figure will be used, and the above statements will be accepted as true for the purposes of illustration. If we assume that the average cost of drilling a well in the East Texas field over a three-year period is $13,000, (it is approximately correct), then the total unnecessary expense merely for the drilling of the 12,500 unnecessary wells is in round figures $162,000,000. It appears that the average allowable per day in the East Texas field for several years has been about 435,000 barrels, which in round numbers would be 159,000,000 barrels per year. The posted price has been approximately $1.00 per barrel. It is clear, therefore, that, if the unnecessary drilling of some 12,500 wells had not taken place, the operators would have saved the cost of such wells, or approximately $162,000,000. The saving of that sum would be equivalent, as far as income to operators is concerned, to receiving more than $2.00 a barrel instead of the $1.00 per barrel actually received during the entire year of 1935. The saving would be considerably larger if taxes, operating costs and other expenses incident to the drilling of unnecessary wells should be considered.

Conditions in the Oklahoma City pool offer further illustration. Reputable engineers have stated that one well in the Wilcox horizon will efficiently drain at least 10 acres under proper proration. Assuming as correct the estimate frequently given that the area of the productive Wilcox horizon is 3,600 acres, then 360 wells would have been ample to recover the oil, instead of 677 wells which were actually drilled and are producing today. The average cost of such wells has been given as $100,000 each. It follows, under such facts as assumed, that 317 unnecessary wells were drilled at a total cost of $31,700,000. If such unnecessary cost had been saved, the saving would have been equivalent to an increase in price of 75 cents a barrel for the production of the Wilcox zone for an entire year.

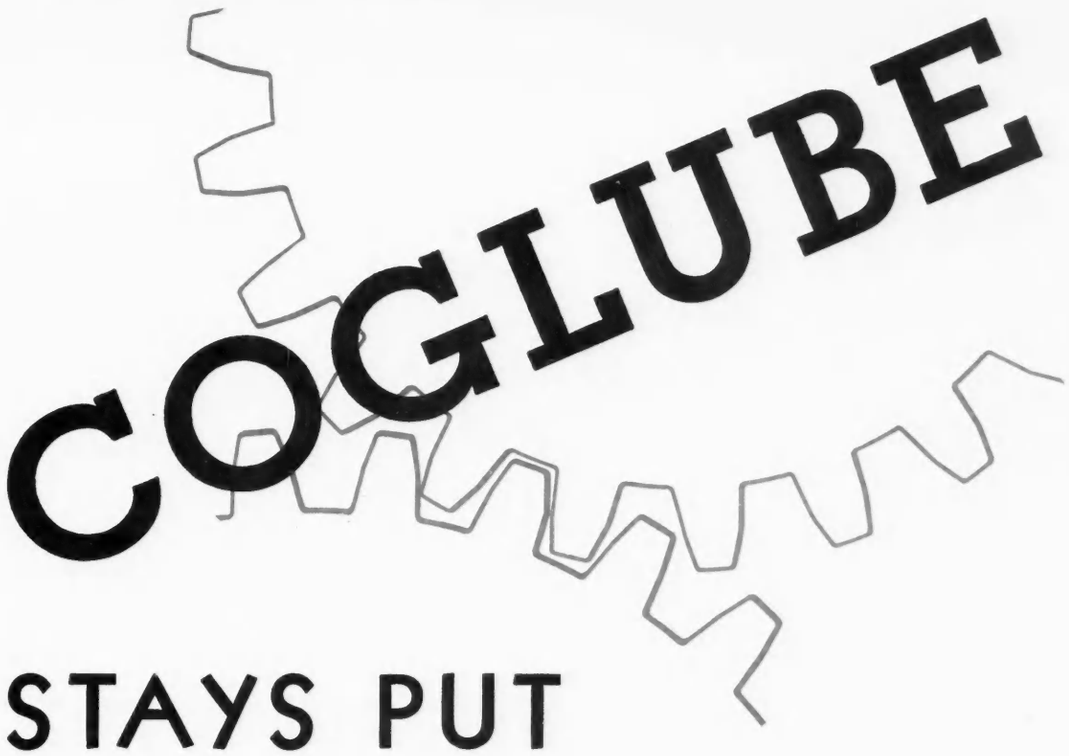
Clearly, the evils following unnecessary or excessive drilling are numerous, if all states and fields are considered. It is equally clear that such unnecessary drilling takes place largely because of the premium put on wells or well-potentials in allocation of production. It is also observed that very frequently, indeed almost invariably, such a method of distribution of allowable results in concentrated drilling and concentrated withdrawals, thus having a tendency to cause spotted areas of low pressure, irregular and premature encroachment of water, irregular and premature expansion of the gas cap or the creation of a local gas cap, high gas-oil ratios, unnecessary loss of gas from solution, indeed, most of the conditions which cause physical waste, and which should be avoided.

The remedy for such unnecessary and for such spotted drilling is obvious. In some instances the operators, by agreement, can settle the question of well spacing, drainage area, proration unit, and method of allowable. In most instances, however, an agreement of all operators can not be obtained, so, for all practical purposes, the remedy for unnecessary or excessive drilling rests in the action of the administrative body which fixes the method of allocation for each field, or in the courts should the method of allocation fail to meet legal tests.

Unnecessary and excessive drilling will almost automatically cease, and reasonable, uniform drilling will almost automatically follow, whenever the method of allocation, as between operators in a field, is based upon a proration unit comprising not less than an area which one well will efficiently and economically drain, and which then provides for distributing the allowable in a manner to take into account the differences in the recoverable oil in the various productive units in the field. A somewhat similar result is reached by a uniform spacing program with the spacing unit fixed at approximately the same size as the proration or drainage unit above mentioned, even though distribution be on a per well potential basis; provided, no exceptions are given to the spacing rule, or if there should be such exceptions, then with the allowable for the well adjusted in order to prevent discrimination against other tracts.

If it be assumed that one well will efficiently and economically drain "x" acres in a particular field, it seems to be reasonable to assume that the administrative body can not legally enforce an order which in practical effect requires the drilling of more than one well on an "x" acre tract in order to enable the operator to obtain a proper allowable, being one which gives the operator his fair share of the allowable for the field as the owner of an "x" acre tract with a well on it.

While it is often said that, under the statutes in some states, the administrative body is authorized to regulate drilling, production, etc., only to prevent physical waste, surely it does not follow that the regulatory body has the power by its orders, directly or indirectly, to increase unnecessarily the cost of production; and it does not follow that the administrative body has the power to transcend reasonable limits even to prevent physical waste. Surely an order of an administrative board could be set aside which required the use of gold pipe or silver derricks, for such an order would have

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no other effect than to cause unnecessary expense to the operator. It seems reasonable to conclude, therefore, that, where one well will efficiently and economically drain "x" acres, an order of the regulatory body which leaves the operators no alternative but to drill more than one well to each "x" acres if they are to obtain their proper, respective shares of the allowable production for the field, would be set aside by the courts for the reason that it causes unnecessary expense.

Finally, let it be repeated that it seems reasonable to say that the administrative body is not authorized to make an order which in practical effect requires the drilling of a well where the income from the well will not pay for the expense of drilling and operation, and such drilling is not reasonably necessary for the recovery of the oil under the tract.

It seems to be wholly immaterial that, in determining the size of the unit, economic conditions or economic waste may be involved, and, for that matter, none of the conservation statutes in any state prohibits, as some seem to think, the consideration of economic waste or economic conditions in any manner whatsoever.

The committee has not undertaken to check or to have checked, the conservation laws of all the states and the court decisions interpreting the same in an effort to determine whether or not, under each of such laws, the remedy for unnecessary and excessive drilling in proven fields, as outlined herein, can without doubt be effectively applied. It is our understanding that, beyond question, the remedy can be applied in most states, substantially as suggested, though complications may exist as to application in some of the old fields. If the remedy suggested, or any other adequate remedy, can not be applied under the present laws of any state, then the operators in that state will have to consider the advisability of seeking further legislation.

Obviously, some difficulty arises in the enforcement of any uniform spacing pattern or of a proration unit whenever in the field there are small or irregularly shaped tracts. For instance, the strict enforcement of a 20-acre spacing rule would in many instances prevent any drilling on small or irregularly shaped tracts; and, unless some other arrangement should be made, the owner of the tract would be deprived of the opportunity to recover his share of the oil, for the expense of the recovery would be greater than the value of the oil recovered. A reasonable way to avoid this condition is to permit voluntary pooling, and to require pooling should no agreement be made, for in that instance the small tract owner would obtain his fair share of the oil while paying only his fair share of the expense of drilling and operating.

We are not here concerned with unitization or pooling of the entire field. The problem under discussion is the protection of the owner of a small tract. If it be true that he is entitled only to his fair share of the allowable, it may be that he can not afford to pay all the expense of drilling and operating a well on his small tract when limited to a proper allowable. The right by agreement to pool his tract with a part of his neighbors' lands, thus to conform to the spacing plan or proration unit, amounts to nothing unless an agreement be made. The neighbor or neighbors, by being arbitrary, can refuse to make a fair agreement. It would follow, in such an instance, that the owner of the small tract could not afford to drill. It is reasonable to assume that the owner of the small tract can not be given an excessive allowable, for that would result in illegal confiscation with respect to others, the taking from one to give to another, so it appears that the only reasonable way left to protect the owner of a small tract under such circumstances, is to give the regulatory body power to require a fair pooling between the small tract and a neighboring tract or tracts.

The conservation law passed by the State of New Mexico, in 1935, undertakes to deal with the drilling of unnecessary wells, and also to provide for pooling in order to prevent confiscation with respect to small or irregularly shaped tracts. The committee does not undertake to say that the method as provided in the New Mexico law is the best method. The provisions of the law are quoted below simply to give a concrete example of how the legislature of one state dealt with the problem. The committee does say that the general idea as expressed in the New Mexico law seems to be a reasonable aproach to a fair solution of the problem. The second and third paragraphs of Section 12, being a part of Chapter 72, of the Session Laws of New Mexico, of 1935, read as follows:

"No owner of a property in a pool should be required by the Commission, directly or indirectly, to drill more wells than are reasonably necessary to secure his proportionate part of the production. To avoid the drilling of unnecessary wells, a proration unit for each pool may be fixed, such being the area which may be efficiently and economically drained and developed by one well. The drilling of unnecessary wells creates fire and other hazards conducive to waste, and unnecessarily increases the production cost of oil and gas to the operator, and thus also unnecessarily increases the cost of the products to the ultimate consumer.

"The pooling of properties or parts thereof shall be permitted, and, i not agreed upon, may be required in any case when and to the exten that the smallness or shape of a separately owned tract would, unde the enforcement of a uniform spacing plan or proration unit, otherwis deprive or tend to deprive the owner of such tract of the opportunit to recover his just and equitable share of the crude petroleum oil an natural gas in the pool; provided, that the owner of any tract that is smaller than the drilling unit established for the field, shall not be deprived of the right to drill on and produce from such tract, if same can be done without waste; but in such case, the allowable production from such tract, as compared with the allowable production therefrom if such tract were a full unit, shall be in the ratio of the area of such tract to the area of a full unit. All orders requiring such pooling shall be upon terms and conditions that are just and reasonable, and will afford to the owner of each tract in the pool the opportunity to recover his just and equitable share of the oil and gas in the pool as above provided, so far as may be practicably recovered without waste. In the event such pooling is required, the costs of development and operation of the pooled unit shall be limited to the lowest actual expenditures required for such purpose including a reasonable charge for supervision; and in case of any dispute as to such costs, the commission shall determine the proper costs."

The Legislature of Oklahoma amended its conservation laws by an Act, approved by the Governor on April 22, 1935, providing for proration and well spacing units, and for pooling of tracts in order to conform to uniform spacing. The Oklahoma Legislature approached the problem in fundamentally the same manner as did the Legislature of New Mexico.

As previously stated, it is the committee's present opinion that no restriction upon "wildcatting" should be contemplated; but it is believed that "wildcat" wells should be so located with reference to property lines that, if production is had, a sane well spacing program for the pool can be worked out.

Obviously, any saving in drilling and operating expenses would increase the profit or reduce the losses of the operator. According to Hubbard, in the article cited above, and according to other estimates which have been made, the income from production, on the average over a period of time, is less than drilling, operation, and other applicable expenses. (Pratt, Petroleum, Its Origin, Production and Future, The Lamp, August, 1935, page 6; Cost of Producing Oil Rose 5.8 Cents a Barrel in Period of the Code, National Petroleum News, November 27, 1935; Rowley, Report on Costs of Production Regarded as Entirely Unfair, Oil & Gas Journal, November 28, 1935.)

The enormous amount which may be saved by reducing unnecessary drilling to a minimum ought to be sufficient to cause an almost unanimous movement to do whatever is necessary to bring about such saving.

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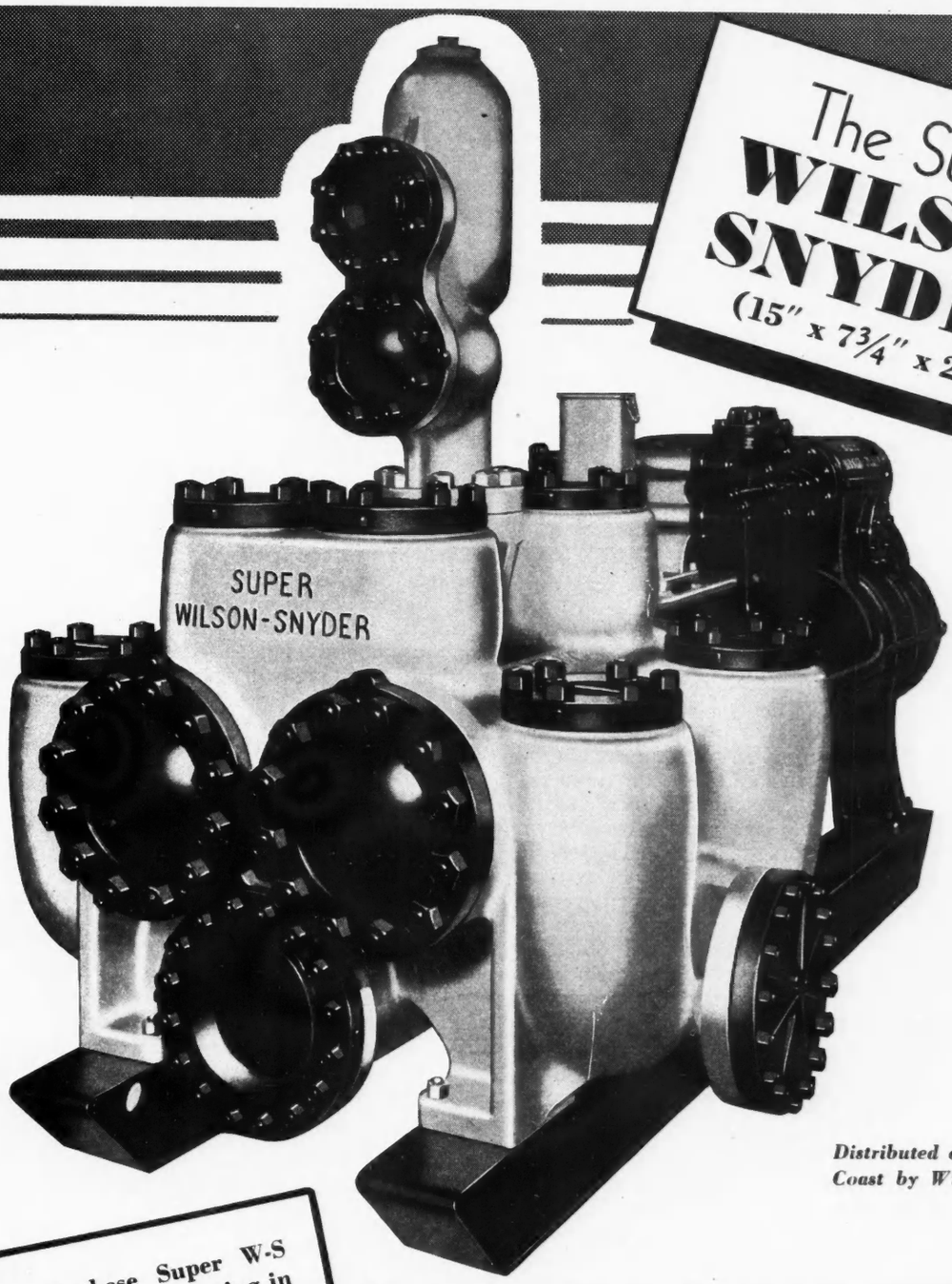


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# *Petrographic and Physical Characteristics*

## OF SANDS FROM SEVEN GULF COAST PRODUCING HORIZONS

By M. T. HALBOUTY,
Chief Geologist and Petroleum Engineer,
Glenn H. McCarthy, Inc., Houston, Texas

### PART VI

### Permeability Results

PERMEABILITY may be defined *briefly* as the rate of flow of a fluid through the variously arranged interstices of a sand body, such rate of flow affected by the reservoir pressure of the stratum and such flow maintained to extend from the stratum to an area of low pressure, such as from an oil sand to a well bored into it for the flowing of oil. This rate of flow is not a steady one, and the various factors influencing permeability causes unsteady flows which consequently produces unequalized drainage of the sand horizon. This point of view is discussed pro and con by permeability students, however, it is the author's belief that no uniform drainage occurs in any sand body because of the various non-uniform factors which are found to occur in a sand stratum. It is generally known that the factors influencing permeability are porosity, cementation between sand grains, grain size relationship, reservoir pressure, and saturation. With these factors definitely embodied in every sand horizon, it is well to discuss what variations of these factors would determine uniform drainage and what also will determine non-uniform drainage. In order to obtain uniform drainage, considering the spacing of wells are on equal acre basis, each factor mentioned above would have to be absolutely equal in percentage throughout the sand with no variation in any part of the sand. In other words, for example, the porosity of the sand must be of a certain percentage throughout with no variation, the cementation and grain size relationship also must be absolutely uniform, the reservoir pressure should never change, and the saturation of the sand must also be the same from top to bottom of the stratum. These uniform conditions must prevail with the factors in order to obtain a uniform rate of flow, or permeability, or drainage of the stratum.

In practically no case known to date has absolute uniform factor-conditions been found to prevail throughout a sand body. Each sand body contains non-uniform characteristics as far as permeability factors are concerned and from study it has been ascertained that the porosity of a sand may vary as much as 26 percent from the maximum to the minimum porosity, and that the saturation also will change over an exceedingly wide range from one well to the other. The other factors also are variable and also prevent any uniform drainage in a body of sand.

It has been proven that the permeabilities taken of cores from the same level in a sand horizon have different measurements, and the difference was attributed to the changes of the factors influencing permeability. With such variation in a sand body known to be present, it becomes rather difficult to conclude that any *one* definite form of spacing rules will drain a sand body uniformly. An average percentage of all results are usually compiled and used to formulate conclusions of the permeability of sand bodies, but as many different results were compiled to form an average, so will the sand involved be averaged which proves that actually several variable areas exist in a stratum. That is, where two *extremes* of a sand are compiled for a *mean*, as far as calculations are concerned to the researcher, the conclusion thus obtained on paper does not alter the fact that the extreme conditions still exist in the sand body and that actually different results will be manifested regardless of calculations. In other words, in one spot of the sand one well may efficiently drain 20 acres, but in another spot immediately adjoining the 20-acre well, one well may *not* even drain five acres efficiently. Tables 12 to 19 inclusive show the difference of permeabilities and porosities of various sand bodies, and even though this study was limited to the general Gulf Coast area, the results are indicative of individual horizons in individual fields. Therefore, it can be said that at the present time, spacing of wells, if made from the results and studies from permeability measurements should be made according to the variation of the sand characteristics whether such variations call for five acres or 40 acres, and that *average* results are not representative of

**A STUDY of the petrographic and physical characteristics of sands in the Gulf Coast region of Texas and Louisiana conducted for the purpose of determining whether or not sands of certain geologic zones and formations may be distinguished as "that of this" zone by this means.**

**Part 1 appeared in THE OIL WEEKLY, November 23; Part 2, November 30; Part 3, December 7; Part 4, December 14; Part 5, December 21, and Part 7, which concludes the series, will appear January 4.**

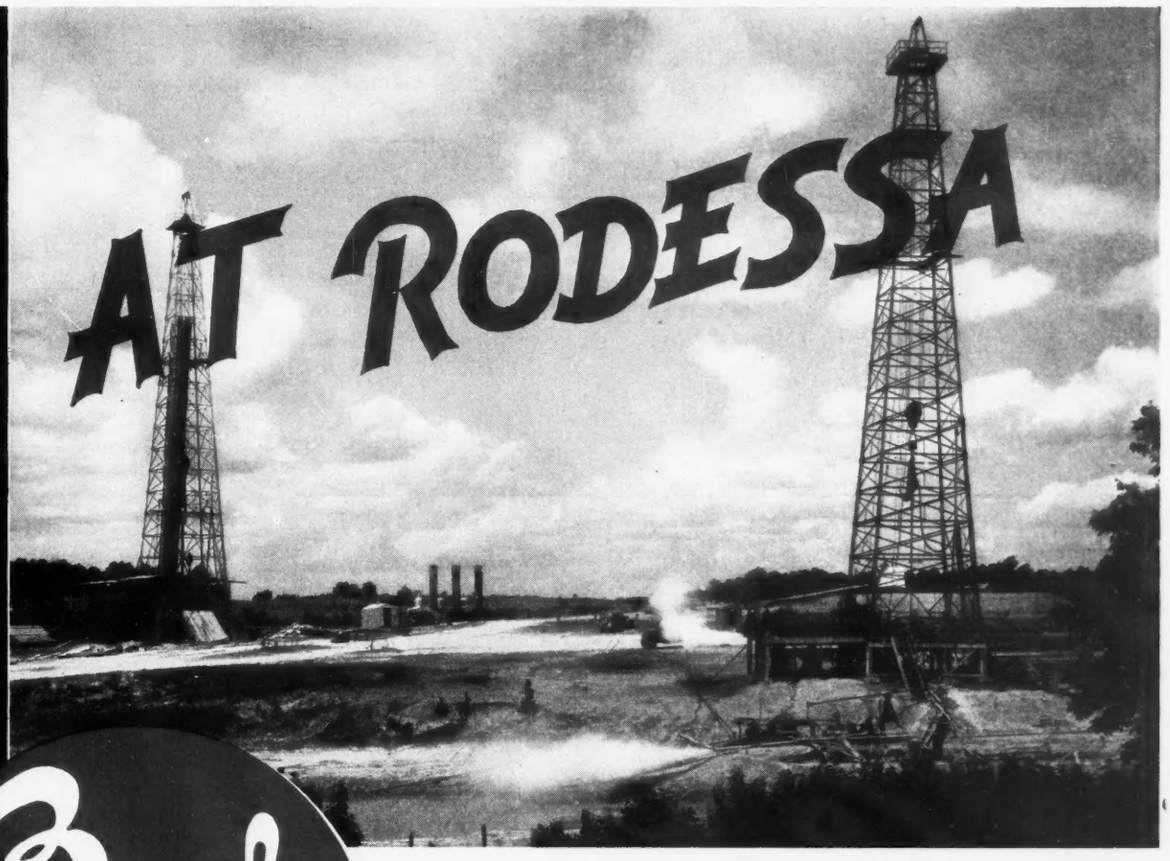


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**TABLE 12**

**Relationship of Permeability (Horizontal) with Porosity of *Upper MDv zone sands:* Lower Miocene**

| Core Number | Permeability—Millidarcies | Porosity Percent |
|---|---|---|
| 1 | 140 | 5 |
| 2 | 160 | 7 |
| 3 | 180 | 6 |
| 4 | 2417 | 17 |
| 5 | 180 | 8 |
| 6 | 180 | 8 |
| 7 | 1818 | 12 |
| 8 | 190 | 9 |
| 9 | 200 | 9 |
| 10 | 2121 | 14 |
| 11 | 210 | 9 |
| 12 | 230 | 10 |
| 13 | 1823 | 11 |
| 14 | 2024 | 12 |
| 15 | 2226 | 15 |

**TABLE 13**

**Relationship of Permeability (Horizontal) with Porosity of *Lower MDv Zone Sands:* Lower Miocene**

| Core Number | Permeability—Millidarcies | Porosity Percent |
|---|---|---|
| 1 | 186 | 10 |
| 2 | 190 | 10 |
| 3 | 225 | 15 |
| 4 | 3250 | 28 |
| 5 | 268 | 18 |
| 6 | 2273 | 20 |
| 7 | 502 | 20 |
| 8 | 304 | 20 |
| 9 | 1608 | 20 |
| 10 | 802 | 20 |
| 11 | 866 | 23 |
| 12 | 850 | 23 |
| 13 | 894 | 24 |
| 14 | 2903 | 25 |
| 15 | 2465 | 25 |

**TABLE 14**

**Relationship of Permeability (Horizontal) with Porosity of *Discorbis Zone Sands:* Middle Oligocene**

| Core Number | Permeability—Millidarcies | Porosity Percent |
|---|---|---|
| 1 | 608 | 10 |
| 2 | 1533 | 15 |
| 3 | 2060 | 18 |
| 4 | 2545 | 18 |
| 5 | 508 | 8 |
| 6 | 2806 | 19 |
| 7 | 2908 | 20 |
| 8 | 224 | 8 |
| 9 | 3340 | 20 |
| 10 | 3602 | 21 |
| 11 | 3501 | 23 |
| 12 | 900 | 13 |
| 13 | 4333 | 24 |
| 14 | 4960 | 25 |
| 15 | 5447 | 26 |

the true factors of any sand body. With this viewpoint in mind and with spacing involved, it can be stated readily that *if the water table is controlled, it doesn't make any difference at all as to the number of wells drilled into a producing sand.* These different factors that are known to exist underground forbids uniform flowage, and consequently, wells have to be drilled accordingly to meet this change of conditions in the sand body. Regardless whether wells are drilled one to 20 acres or one to one acre (if these factors permit, and if they permit for one kind of spacing they also will permit the same for the other), and if the production is so controlled as to drain each area on the same scale, the water level is correspondingly controlled and this control affords greater drainage of the sand horizon. Therefore, it can be concluded that spacing rules should not be governed by *"average"* results but by actual facts existing underground. It also can be said that the nature of the various sand factors preludes a definite predication from other sand bodies which does permit the indication of a trend, making *correlation* work within certain limits worth while. That is, sands of the same geologic age may have similar variations of factors influencing permeability which would give relatively the same permeability results.

Tables 12 to 19, inclusive, show the relationship of permeability (horizontal) with porosity of the various sand horizons. From the results obtained in this study and as listed in the tables, it is evident that the general tendency between the relationship of permeabilities and porosities of sand bodies is for the permeability to increase with porosity. This particular observation was evident in every zone studied. Of course, there were a few cores that did not follow this general trend, however, it is observed that permeability, generally speaking, increases with porosity, and decreases as porosity decreases. Therefore, from this observation it seems that the factor of porosity is one of the most important of the factors influencing permeability, and it is noticed also that porosity percentages in a single horizon are not the same with a large range existing between one extreme and the other. This direct association of permeability and porosity may be due to the assortment of the grain as stated in the chapter dealing with shapes of grains. Porosity can be high in a fine grained sand and low in a coarse grained sand and vice versa, with the deciding factor being in the uniformity of the spacing of the grains. Therefore, if the grain assembly is hap-hazard or what is commonly known as irregular, the porosity may be high due to large openings between the irregularities of spacing, and these large openings will automatically register readily in the rate of flowage of fluid through them which records a high permeability.

Reservoir pressure is also an important factor in the *final conclusions derived from a permeability study of a sand body.* A permeability of a sand core can be taken and the results of the test as determined from other

**TABLE 15**

**Relationship of Permeability (Horizontal) with Porosity of *Heterostegina Zone Sands:* Middle Oligocene**

| Core Number | Permeability—Millidarcies | Porosity Percent |
|---|---|---|
| 1 | 4 | 2 |
| 2 | 8 | 4 |
| 3 | 10 | 4 |
| 4 | 12 | 6 |
| 5 | 12 | 5 |
| 6 | 15 | 6 |
| 7 | 16 | 12 |
| 8 | 220 | 15 |
| 9 | 220 | 16 |
| 10 | 24 | 13 |
| 11 | 24 | 14 |
| 12 | 2400 | 22 |
| 13 | 1750 | 24 |
| 14 | 1250 | 20 |
| 15 | 2550 | 28 |

**TABLE 16**

**Relationship of Permeability (Horizontal) with Porosity of the *Marginulina Zone Sands:* Middle Oligocene**

| Core Number | Permeability—Millidarcies | Porosity Percent |
|---|---|---|
| 1 | 465 | 10 |
| 2 | 533 | 11 |
| 3 | 1333 | 20 |
| 4 | 1202 | 20 |
| 5 | 1942 | 20 |
| 6 | 222 | 8 |
| 7 | 2016 | 20 |
| 8 | 2238 | 21 |
| 9 | 362 | 11 |
| 10 | 2380 | 21 |
| 11 | 2381 | 21 |
| 12 | 491 | 12 |
| 13 | 488 | 12 |
| 14 | 503 | 13 |
| 15 | 2624 | 25 |

**TABLE 17**

**Relationship of Permeability (Horizontal) with Porosity of the *Frio Formation Sands:* Lower Oligocene**

| Core Number | Permeability—Millidarcies | Porosity Percent |
|---|---|---|
| 1 | 671 | 16 |
| 2 | 688 | 15 |
| 3 | 691 | 17 |
| 4 | 704 | 17 |
| 5 | 1800 | 23 |
| 6 | 926 | 18 |
| 7 | 1993 | 23 |
| 8 | 2236 | 23 |
| 9 | 406 | 14 |
| 10 | 2333 | 24 |
| 11 | 501 | 16 |
| 12 | 510 | 16 |
| 13 | 2933 | 27 |
| 14 | 333 | 16 |
| 15 | 3603 | 30 |

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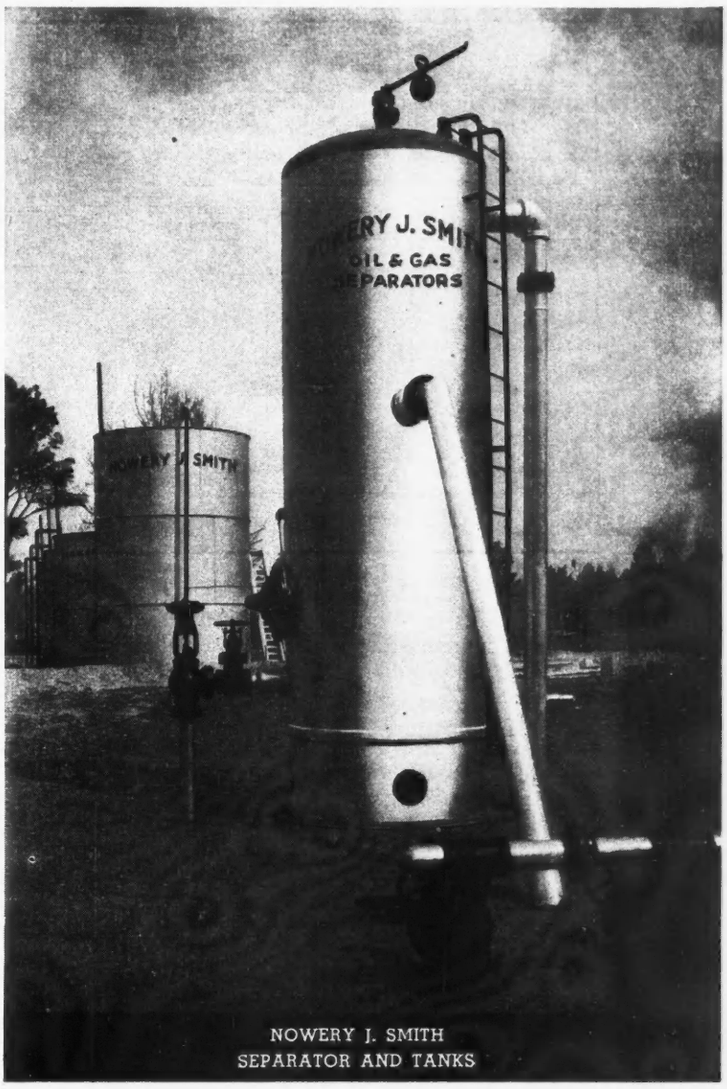


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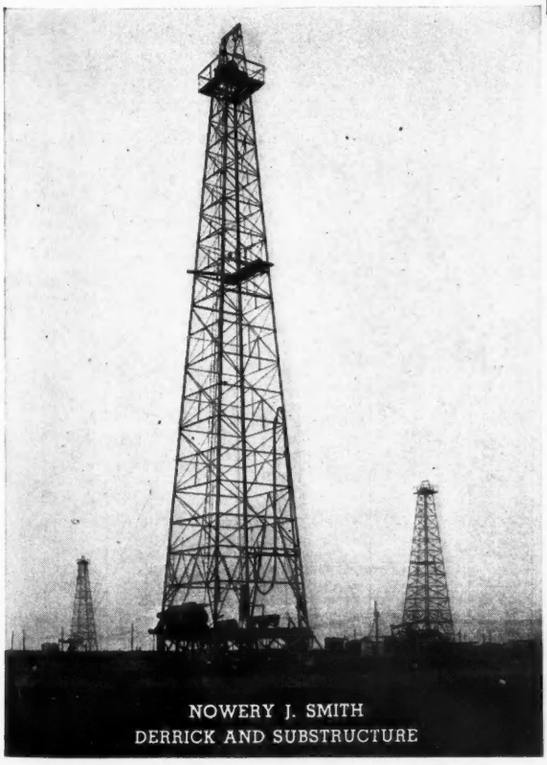

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**TABLE 18**

**Relationship of Permeability (Horizontal) with Porosity of the *Cockfield Sands:* Upper Yegua Formation**

| Core Number | Permeability—Millidarcies | Porosity Percent |
|---|---|---|
| 1 | 345 | 10 |
| 2 | 402 | 10 |
| 3 | 480 | 12 |
| 4 | 1510 | 18 |
| 5 | 1580 | 19 |
| 6 | 1600 | 20 |
| 7 | 704 | 13 |
| 8 | 1796 | 21 |
| 9 | 803 | 14 |
| 10 | 851 | 16 |
| 11 | 1861 | 26 |
| 12 | 1883 | 21 |
| 13 | 945 | 18 |
| 14 | 2130 | 19 |
| 15 | 2209 | 23 |

**TABLE 19**

**Relationship of Permeability (Horizontal) with Porosity of the *Upper Saline Bayou Sands:* Lower Yegua Formation**

| Core Number | Permeability—Millidarcies | Porosity Percent |
|---|---|---|
| 1 | 106 | 10 |
| 2 | 108 | 10 |
| 3 | 186 | 12 |
| 4 | 1288 | 15 |
| 5 | 1640 | 15 |
| 6 | 1833 | 15 |
| 7 | 163 | 11 |
| 8 | 348 | 18 |
| 9 | 3336 | 21 |
| 10 | 3541 | 23 |
| 11 | 2140 | 24 |
| 12 | 2280 | 24 |
| 13 | 2690 | 24 |
| 14 | 3940 | 24 |
| 15 | 4220 | 28 |

horizons and other cores may influence the interpreter to conclude that the core or sand is too low in permeability for the production of either gas or oil. *But a high reservoir pressure can force gas or oil through sands having permeabilities which are lower than normally would have been considered otherwise high enough for possible production.* In the majority of instances this would indicate a prospective gas producer, though, in this, as in many other cores of normal expectations, cannot be set as a hard and fast rule. Gas producers can be had from a sand having a permeability as low as 20 millidarcies, however, as stated before, the factors mentioned above must be considered also.

Table 20 shows the horizontal and vertical permeabilities of the cores tested from all the sand horizons. In numbering the cores, for the permeability tables in each zone, the samples near the top of each horizon was the first to be numbered—that is, the core marked "8" would be from the middle of the zone and that marked "15" would be near the bottom of the horizon. It appears from the data collected from the entire 120 cores that the trend is for the permeabilities to be lower near the top of the horizon and higher near the bottom of the zone, notwithstanding those few cores which did not conform to this trend. If such a trend generally is true in all zones, the ultimate effects of permeabilities

**TABLE 20**

**Permeability Determinations on Core Samples**

**Permeability in Millidarcies**

| Sample No. | Formation | Horizontal (Parallel) Permeability | Vertical Permeability | Sample No. | Formation | Horizontal (Parallel) Permeability | Vertical Permeability | Sample No. | Formation | Horizontal (Parallel) Permeability | Vertical Permeability |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | *Upper MDv Zone* | 140 | 20 | 11 | *Discorbis* | 3501 | 3245 | 6 | *Frio* | 926 | 1840 |
| 2 | *Upper MDv Zone* | 160 | 40 | 12 | *Discorbis* | 900 | 1995 | 7 | *Frio* | 1993 | 1210 |
| 3 | *Upper MDv Zone* | 180 | 20 | 13 | *Discorbis* | 4333 | 3663 | 8 | *Frio* | 2236 | 1645 |
| 4 | *Upper MDv Zone* | 2417 | 60 | 14 | *Discorbis* | 4960 | 945 | 9 | *Frio* | 406 | 260 |
| 5 | *Upper MDv Zone* | 180 | 20 | 15 | *Discorbis* | 5447 | 4444 | 10 | *Frio* | 2333 | 2339 |
| 6 | *Upper MDv Zone* | 180 | 10 | | | | | 11 | *Frio* | 501 | 1845 |
| 7 | *Upper MDv Zone* | 1818 | 110 | 1 | *Heterostegina* | 4 | 1 | 12 | *Frio* | 510 | 2230 |
| 8 | *Upper MDv Zone* | 190 | 80 | 2 | *Heterostegina* | 8 | 3 | 13 | *Frio* | 2933 | 2860 |
| 9 | *Upper MDv Zone* | 200 | 40 | 3 | *Heterostegina* | 10 | 8 | 14 | *Frio* | 333 | 3130 |
| 10 | *Upper MDv Zone* | 2121 | 810 | 4 | *Heterostegina* | 12 | 8 | 15 | *Frio* | 3603 | 1945 |
| 11 | *Upper MDv Zone* | 210 | 120 | 5 | *Heterostegina* | 12 | 10 | | | | |
| 12 | *Upper MDv Zone* | 230 | 100 | 6 | *Heterostegina* | 15 | 14 | 1 | *Cockfield* | 345 | 84 |
| 13 | *Upper MDv Zone* | 1823 | 110 | 7 | *Heterostegina* | 16 | 10 | 2 | *Cockfield* | 402 | 25 |
| 14 | *Upper MDv Zone* | 2024 | 1100 | 8 | *Heterostegina* | 220 | 160 | 3 | *Cockfield* | 480 | 73 |
| 15 | *Upper MDv Zone* | 2226 | 1100 | 9 | *Heterostegina* | 220 | 300 | 4 | *Cockfield* | 1510 | 1100 |
| | | | | 10 | *Heterostegina* | 24 | 14 | 5 | *Cockfield* | 1580 | 640 |
| 1 | *Lower MDv Zone* | 186 | 73 | 11 | *Heterostegina* | 24 | 18 | 6 | *Cockfield* | 1600 | 510 |
| 2 | *Lower MDv Zone* | 190 | 76 | 12 | *Heterostegina* | 2400 | 1800 | 7 | *Cockfield* | 704 | 345 |
| 3 | *Lower MDv Zone* | 225 | 70 | 13 | *Heterostegina* | 750 | 490 | 8 | *Cockfield* | 1796 | 1540 |
| 4 | *Lower MDv Zone* | 3250 | 760 | 14 | *Heterostegina* | 1250 | 730 | 9 | *Cockfield* | 803 | 1110 |
| 5 | *Lower MDv Zone* | 268 | 81 | 15 | *Heterostegina* | 1550 | 850 | 10 | *Cockfield* | 851 | 985 |
| 6 | *Lower MDv Zone* | 2273 | 800 | | | | | 11 | *Cockfield* | 1861 | 2045 |
| 7 | *Lower MDv Zone* | 502 | 81 | 1 | *Marginulina* | 465 | 860 | 12 | *Cockfield* | 1883 | 1430 |
| 8 | *Lower MDv Zone* | 304 | 212 | 2 | *Marginulina* | 533 | 893 | 13 | *Cockfield* | 945 | 2145 |
| 9 | *Lower MDv Zone* | 1608 | 1490 | 3 | *Marginulina* | 1333 | 1010 | 14 | *Cockfield* | 2130 | 805 |
| 10 | *Lower MDv Zone* | 802 | 780 | 4 | *Marginulina* | 1202 | 1113 | 15 | *Cockfield* | 2209 | 740 |
| 11 | *Lower MDv Zone* | 866 | 950 | 5 | *Marginulina* | 1942 | 1460 | | | | |
| 12 | *Lower MDv Zone* | 850 | 860 | 6 | *Marginulina* | 222 | 202 | 1 | *Upper Saline Bayou* | 106 | 74 |
| 13 | *Lower MDv Zone* | 1894 | 1410 | 7 | *Marginulina* | 2016 | 998 | 2 | *Upper Saline Bayou* | 108 | 16 |
| 14 | *Lower MDv Zone* | 2903 | 986 | 8 | *Marginulina* | 2238 | 2110 | 3 | *Upper Saline Bayou* | 186 | 84 |
| 15 | *Lower MDv Zone* | 2465 | 1560 | 9 | *Marginulina* | 362 | 616 | 4 | *Upper Saline Bayou* | 1288 | 345 |
| | | | | 10 | *Marginulina* | 2380 | 1945 | 5 | *Upper Saline Bayou* | 1640 | 1733 |
| 1 | *Discorbis* | 608 | 846 | 11 | *Marginulina* | 2381 | 2395 | 6 | *Upper Saline Bayou* | 1833 | 1133 |
| 2 | *Discorbis* | 1533 | 933 | 12 | *Marginulina* | 491 | 200 | 7 | *Upper Saline Bayou* | 163 | 1412 |
| 3 | *Discorbis* | 2060 | 2100 | 13 | *Marginulina* | 488 | 214 | 8 | *Upper Saline Bayou* | 348 | 2460 |
| 4 | *Discorbis* | 2545 | 2245 | 14 | *Marginulina* | 503 | 1999 | 9 | *Upper Saline Bayou* | 3336 | 3140 |
| 5 | *Discorbis* | 508 | 303 | 15 | *Marginulina* | 2624 | 2443 | 10 | *Upper Saline Bayou* | 3541 | 48 |
| 6 | *Discorbis* | 2806 | 2605 | | | | | 11 | *Upper Saline Bayou* | 2140 | 2010 |
| 7 | *Discorbis* | 2908 | 2980 | 1 | *Frio* | 671 | 1510 | 12 | *Upper Saline Bayou* | 2280 | 2140 |
| 8 | *Discorbis* | 224 | 210 | 2 | *Frio* | 688 | 964 | 13 | *Upper Saline Bayou* | 2690 | 2340 |
| 9 | *Discorbis* | 3340 | 1316 | 3 | *Frio* | 691 | 1310 | 14 | *Upper Saline Bayou* | 3940 | 1450 |
| 10 | *Discorbis* | 3602 | 3310 | 4 | *Frio* | 704 | 1540 | 15 | *Upper Saline Bayou* | 4220 | 4140 |
| | | | | 5 | *Frio* | 1800 | 1845 | | | | |

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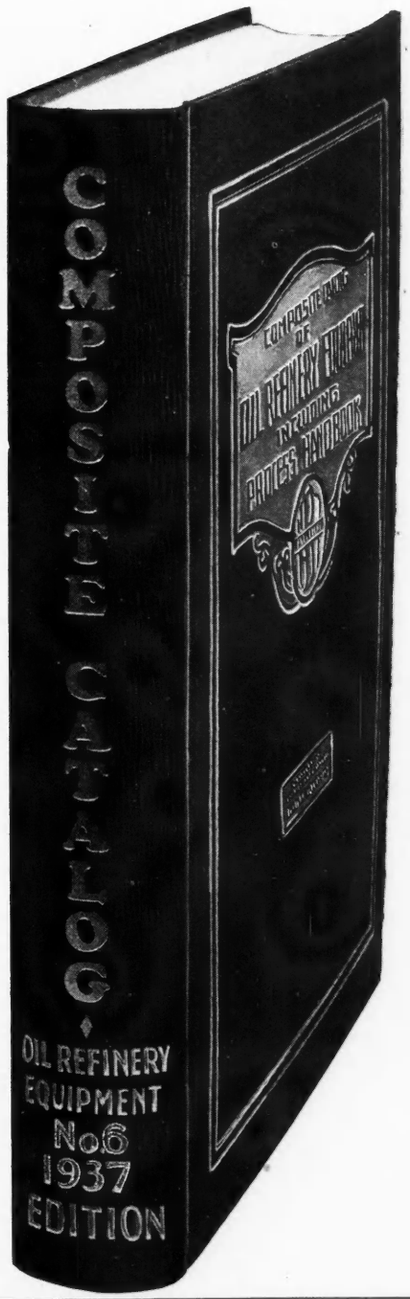


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to oil horizons in the same zone would be decidedly important before the completion or setting of a well. The author realizes that the cores from which the permeabilities were taken in this study are not perfectly representative of *a complete sand section in any zone,* and that the general trend as found in these final results may be altered. *Such conclusions cannot be definitely ascertained unless thousands of cores were taken, permeabilities recorded while still fresh, at five to ten foot intervals from all fields in all areas.*

*If, after such work, the general trend is for lower permeabilities to be near the top of the sand horizon and the higher permeabilities to be at the lower part, then such deductions could be made a fast rule. However, for individual correlation in limitea areas this trend may be accepted and used very valuably.*

As to the permeability characteristic of each geologic zone studied, it can be said that the Upper and Lower *MDv* Zone sands showed a variable amount of millidarcies throughout each section, but that the curve for each section is similar. The *Discorbis* Zone showed a range of high permeabilities, in fact, higher than any of the other zones. The *Heterostegina* Zone sands tested lower measurements of permeability than the other horizons, the lowest recorded being four millidarcies. This low permeability may be attributed to the fact that the physical characteristics of the grains as referred to earlier in this paper have an affect on the permeability measurements and that the porosities of each core in this zone was relatively low—as low as two percent.

The other zones did not show any particular outstanding permeability characteristic which would segregate any of them as of correlative value as far as permeabilities are concerned. However, it was noticed, and which warrants recording, the porosity percentages of the sands in the Frio formation were relatively higher than the sands of any other geologic zone.

A large number of electrically cored logs were studied in the relationship of permeability to the electric log recordings of the same horizon, and in many cases electrical logs were available for the identical cores which were used in this study. *Observations from this comparison seemed to follow a general trend that whenever the permeability of an oil sand is high, the ohm reading of the same sand will be relatively high also and vice versa. It is also apparent from these observations in this research that whenever the sand grains are relatively coarse throughout the textural range, the ohm reading on an electrical log test will be high and the permeability of the sand also high.* This particular observation can best be illustrated by the Frio sands. Several of the sands tested contained smaller grains than others; that is, smaller grains dominated in the lower textural range, even though there were a slight percentage of coarser grains in the upper textural range. *These particular sands showed a small ohm reading and a low permeability measurement, and those which were coarser showed higher ohm readings and higher permeability measurements.*

Table 21 shows this arrangement of various measurements of the Frio sands. The association of these measurements to one another is indicative of a trend, and even the porosity measurements seem to automatically fit in the general aspect of the trend; that is, varying with other variations. From this table it is observed that the fine grained sands (as determined from the lower textural range of greatest percentage) have low permeabilities, low ohm readings, and relatively low porosity percentages. Further research on such observations may reveal more data which may be exceedingly important in interpreting as well as correlating electrical log recordings and laboratory tests of oil sands.

## Summary of Conclusions

Uniform factors are rarely, if ever, present in any one body of sand. Factors influencing permeability are variable from one well to another and within the sand horizon. Because of the variation of the factors influencing the drainage of the oil from the sand, the drainage will not be uniform—but irregular, and it is incorrect to assume an "average" for factors of a sand body.

From this study it is observed that the general tendency between the relationship of permeabilities and porosities of sand bodies is for the permeability to increase with porosity and decrease as porosity decreases.

High reservoir pressure can force gas or oil through sands having permeabilities which are lower than normally would have otherwise been considered high enough for possible production.

Observations in this study have indicated that a general trend for sand permeabilities is for lower permeabilities to be near the top of the sand horizon and higher permeabilities to be at the lower part of the sand body.

The *Discorbis* Zone sands showed a *higher* range of permeabilities than the other sands, and the *Heterostegina* sands tested the *lowest.*

Sands which showed smaller grains in the lower texture bracket were found to register small ohm readings on electric logs and low permeability measurements; and those which were correspondingly coarser in the same bracket showed a high ohm reading and high permeability. Therefore, it is apparent that whenever the sand grains are relatively coarse throughout the upper and lower texture brackets, the ohm reading on an electrical log test will be relatively high and the permeability also will be high, and that when small grains dominate in the lower brackets and scattered in the upper bracket also, the ohm reading on an electrical logging test will be low and correspondingly low with permeability. This may account for the many good oil sands which were cored and observed by the eye to register small ohm "kicks" by the electric log.

**TABLE 21**

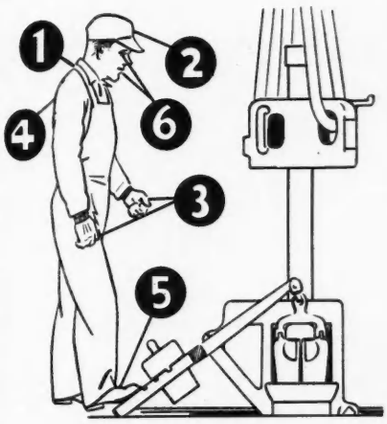
**Relationship of permeability (horizontal) with general texture of grains, with resistivity recordings of electrical log tests, and with porosity of the *Frio* sands: Lower Oligocene**

| Core No. | Permeability—Millidarcies | General Texture of Grains of Lower Bracket | Resistivity of Electrical Log in Ohms | Porosity |
|---|---|---|---|---|
| 1 | 671 | Relatively Fine Grained..... | 3 | 16 |
| 2 | 688 | Relatively Fine Grained..... | 4 | 15 |
| 3 | 691 | Relatively Fine Grained..... | 4 | 17 |
| 4 | 704 | Relatively Fine Grained..... | 5 | 17 |
| 5 | 1800 | Relatively Medium Grained.... | 7 | 23 |
| 6 | 926 | Relatively Fine to Medium Grained..... | 6 | 18 |
| 7 | 1993 | Relatively Medium to Coarse Grained..... | 8 | 23 |
| 8 | 2236 | Relatively Coarse Grained..... | 12 | 23 |
| 9 | 406 | Relatively Fine Grained..... | 2 | 14 |
| 10 | 2333 | Relatively Coarse Grained..... | 13 | 24 |
| 11 | 501 | Relatively Fine Grained..... | 13 | 16 |
| 12 | 510 | Relatively Fine Grained..... | 2 | 16 |
| 13 | 2933 | Relatively Coarse Grained..... | 14 | 27 |
| 14 | 333 | Relatively Fine Grained..... | 2 | 16 |
| 15 | 3603 | Relatively Coarse Grained..... | 16 | 30 |

**Note:** All these cores are from present producing sands.

# THE GUIBERSON AUTOMATIC TUBING SPIDER

**NEW AND SAFE WAY WITH GUIBERSON AUTOMATIC TUBING SPIDER**




**1 ONE MAN REQUIRED** to easily operate tubing spider with speed.

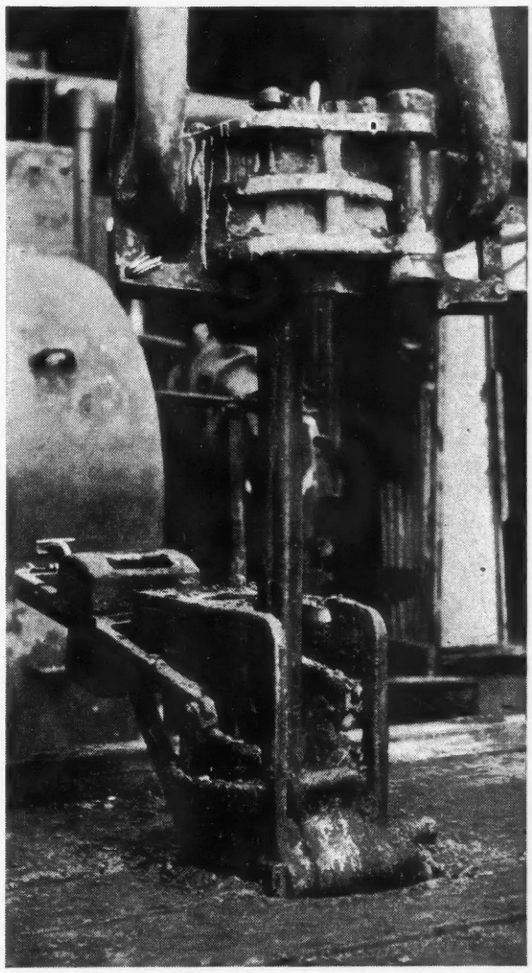
**2 PREVENTS HEAD INJURY** because it is away from elevator.

**3 PREVENTS HAND INJURY** from elevator or other mishap.

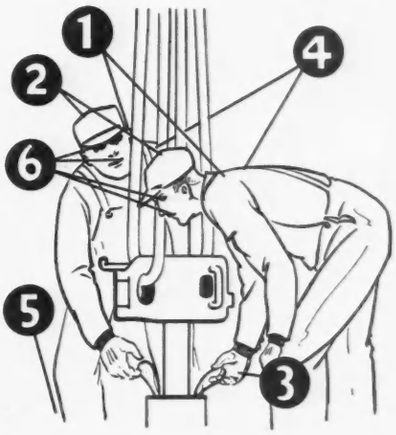
**4 PREVENTS TIRED BACK** by standing and operating spider with foot or weight.

**5 PREVENTS INJURED FEET.**

**6 PREVENTS INJURY TO EYES AND LUNGS** by standing away from gas fumes.



**OLD AND DANGEROUS WAY WITH MANUALLY OPERATED TUBING SPIDER AND SLIPS**




**1 TWO MEN REQUIRED** to operate other type slips and spider.

**2 HEAD INJURY** caused by bending under and over elevators.

**3 HAND INJURY** caused by hand near elevator and tubing slips.

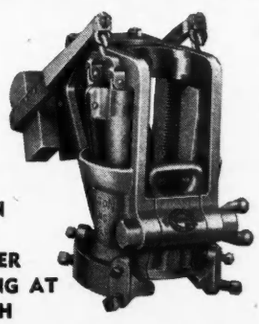
**4 TIRED** and **SORE BACKS** caused by continually bending over, straining and pulling.

**5 INJURED FEET** caused by nearness of machinery.

**6 GAS INJURIES TO EYES** and **LUNGS** caused by gas fumes.

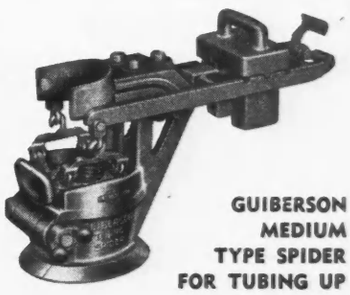
# SET WORLD'S LONGEST STRING

**10,100 feet of 2½", 6½# External Upset Tubing, Weighing 65,650 pounds were safely and successfully run with great speed in Denver Producing and Refining's well near Binger, Caddo County, Oklahoma, two GUIBERSON Tubing Catchers were run on this tubing.**



GUIBERSON HEAVY TYPE SPIDER FOR TUBING AT ANY DEPTH

**GUIBERSON SPIDERS HAVE THESE IMPORTANT AND EXCLUSIVE ADVANTAGES; (1) SPEEDIEST TO RUN; (2) SAFEST TO USE; (3) EASIEST TO OPERATE; (4) EASIEST TO INSTALL AND REMOVE; (5) OPENS TO CASING WIDTH TO PASS TOOLS; (6) GUIDE HEAD ELIMINATES TUBING DRAG; (7) SAFETY CATCH PREVENTS JUMPING OF SLIPS**



GUIBERSON MEDIUM TYPE SPIDER FOR TUBING UP TO 5,000'

**See Your Supply Store**

**THE GUIBERSON CORPORATION**
**Box 1106, Dallas, Texas**

**See 1937 Composite Catalog**

# GUIBERSON

BETTER BE SAFE THAN SORRY

# *Why* **Low Maintenance** *out in the field*

## Specifically . . .

● We might point out the rugged construction of Westcott orifice meters . . . the differential body of forged steel—with screw and welded connections between chambers, and stainless steel parts within the mercury chamber. . . . A hardened stainless steel stuffing box. . . .The pressure spring of special alloy or stainless steel, connected without soldering. . . . Only one moving part between mercury surface and chart record. . . . Spring driven, electric or gas motor driven clocks. . . . Scientifically selected materials. . . . Simplicity. . . . Easy adjustment. . . . Easy cleaning.

● The Westcott is a **PRACTICAL** engineering instrument, devised to hold its own in the producing field, in the refinery, and in other process plants where there is neither time nor inclination to pamper meters.

● Complete facts in our literature on Westcott Indicating, Recording or Integrating Orifice Meters and Flowmeters—including the popular new Round Case Indicating Flowmeter.

347

AMERICAN METER CO. MEASUREMENT ENGINEERS

**AMERICAN METER COMPANY**
INCORPORATED
*Measurement and control of Gas, Oil, Steam, Air and Liquids*
METRIC METAL WORKS *ERIE, PENNSYLVANIA*

# *Markets Are Firm*

## BUYERS AND SELLERS BOTH ARE HESITANT HOWEVER

THE markets continued firm last week, although they were largely stationary, with both buyers and sellers hesitant.

While there was not in evidence any pronounced lack of confidence, the markets were distinctly listless.

This slowness of the markets apparently resulted from a combination of circumstances. In the first place, traders were wondering whether or not crude prices would be generally increased, as expected, just after New Year. In the second place, the approach of the holiday naturally tended to detract from interest in the markets. Milder weather also was having its effects.

### Crude Raise Uncertain

Although it had been widely believed that the contemplated general crude price increases would come through on schedule, some further doubt arose at the middle of the week, when it became apparent that crude production allowables would continue comparatively large in January. The Texas Railroad Commission for January fixed a state allowable 73,000 barrels a day higher than recommended by the Bureau of Mines. In December, also, Texas had exceeded the federal allocation but not to so great an extent.

In consequence of that action by the Texas officials, it seemed quite likely that practically all the other states, similarly, would exceed the federal allocations in January.

Consequently, there is in prospect an increase in crude oil storage, whereas the stocks were steadily being reduced until lately.

### Promising Outlook Cited

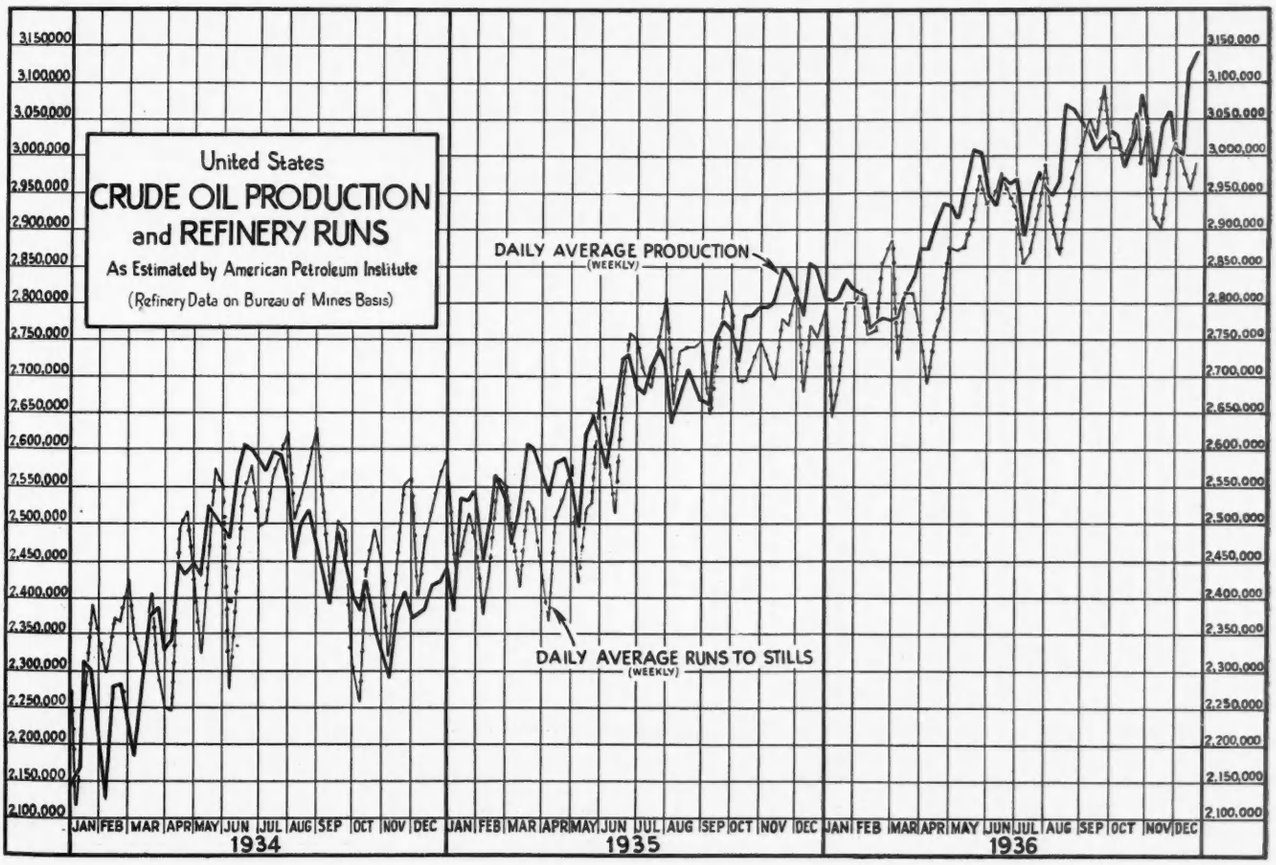
While the increasing disregard of the Bureau of Mines recommendations on crude production is causing considerable anxiety in the industry, the fears are burshed aside by Colonel Ernest O. Thompson, chairman of the Texas Railroad Commission. He bases his stand on the fact petroleum consumption continues remarkably great and that the Bureau of Mines in the past has under-estimated the demand.

He pointed out last week that in the United States a billion barrels of crude oil has been consumed in 1936, and offered the forecast that 1937 will show an increase of about 7 percent over 1936.

Higher Texas allowables are based also, he said, on the fact above ground storage of oil has continued to decrease. Furthermore, he asserted, even if storage does "jump a little" this winter, that will be no cause for alarm.

Various leaders in the oil industry also have given out optimistic expressions lately, in addition to Dan Moran, head of Continental Oil Company, in connection with that company's scheduled increase of crude postings January 4. Among the optimistic was J. Edgar Pew, of the Sun Oil Company, who lately was quoted as saying that the oil business now is in the best circumstances for years.

Nevertheless, the prospects naturally



are somewhat dulled by the trend toward slacker control of crude production, and by the most recent figures on crude production and oil stocks, reflecting the liberal allowables.

Crude output continues high after having jumped on two successive weeks to new all time peaks, and withdrawals from storage have been reduced.

Gasoline stocks showed their first sharp increase since early summer, when they jumped 1,190,000 barrels in the week ended December 19. The total stocks of finished and unfinished gasoline on that date were indicated to be 59,205,000 barrels, according to the American Petroleum Institute.

Stocks of gas oil and fuel oil decreased 981,000 barrels during the same week, dropping off to 107,288,000 barrels. This situation on fuel oil and gasoline stocks was not encouraging, as it reflected the fact that the meeting of the heavy demand for fuel oil is resulting in excessive output of gasoline by the refineries. Furthermore, it would not be surprising if that trend is accelerated henceforth, when inclement weather causes greater fuel oil consumption and smaller motor fuel demand.

### Runs to Stills Up

The American Petroleum Institute reported that for the week ended December 19, indicated runs to stills by the whole industry averaged 2,990,000 barrels of crude daily, or 35,000 barrels a day more than in the previous week. The new figure was based on reports from companies owning 89.9 percent of the country's refining capacity. The institute reported that in the same week crude production averaged 3,145,700 barrels daily, a new all time peak, and 26,200 barrels a day more than in the previous week, which likewise had exceeded all previous records.

Cracked gasoline production by companies owning 95.9 percent of the potential charging capacity of all cracking units indicates that the industry as a whole, on a Bureau of Mines basis, produced an average of 690,000 barrels daily during the week of December 19.

**CRUDE PRICES**

**Complete table of prices paid for crude oil at the well in principle fields will be found on page 61 of THE OIL WEEKLY dated December 21, 1936.**

### Gasoline Market Less Steady

Although milder weather has reduced fuel oil consumption, the fuel oils and kerosene have continued in good demand, and the prices have remained firm at unchanged levels.

Gasoline, however, has shown less firmness, and although prices remain generally unchanged, sagging tendencies were noted in some districts, particularly on low octane material not measuring up to specifications.

The natural gasoline market also has been showing some unsteadiness, and prices have lost ground.

### Mid-Continent Prices Same

In the latter part of the past week, the tank car prices of U. S. motor gasoline f.o.b. Oklahoma refineries appeared to be holding within the following range: 62 octane and below, 4¾ to 4⅞ cents a gallon; 63 to 67 octane, 5⅛ to 5⅜ cents; and 68 to 70 octane, 5¾ to 5⅞ cents. Corresponding prices in the Chicago market were: 4⅝ to 4⅞ cents, 5 to 5¼ cents, and 5½ to 5⅞ cents. At East Texas refineries, fully tendered third grade gasoline ranged from 4⅝ to 4¾ cents.

Kerosene prices in the Oklahoma market ranged from 3¾ to 3⅞ cents a gallon for the 41-43 water white grade, f.o.b. refineries, and from 3⅞ to 4 cents for the 42-44 water white grade. Prices in the Chicago market were ⅛ cent under those in Oklahoma.

In both the Oklahoma and Chicago markets the No. 1 white burning oils ranged from 3⅝ to 3¾ cents, and the No. 1 straw grade from 3½ to 3⅝ cents; while the No. 2 straw ranged around 3½ cents and the No. 2 dark around 3⅜ cents.

## PRICE ADVANCE

### Ward County crude put on gravity schedule

**Dallas, Texas.**—Atlantic Petroleum Purchasing Corporation, largest purchaser of crude in Ward County, West Texas, advanced its posted price on high gravity crude 5 cents per barrel in adopting the gravity scale price heretofore used by other buyers in West Texas and Lea County, N. M., effective December 14. The company was paying a flat price of 85 cents per barrel, and under the new schedule will pay 90 cents for 36 gravity and above.

## STOCKS DOWN

**Los Angeles.**—Total stocks of crude oil and petroleum products in California decreased 774,465 barrels in November, according to the American Petroleum Institute.

Storage of heavy crude and fuels was up 288,916 barrels, but stocks of light crude and gasoline showed unexpected declines.

Daily average production of crude oil in November was 582,077 barrels, an increase of about 3300 barrels over October. Ninety-nine wells were completed in November, and 93 new rigs were erected.

**Pampa, Texas.**—Crude stocks in Texas Panhandle were reduced 827,600 barrels during November, or at rate of 27,587 barrels daily average, leaving 8,764,000 barrels on hand at the end of the month. Withdrawals from stocks have been steady throughout 1936, and the record reduction during November was partially due to Humble Oil & Refining Company's purchase of storage oil from Skelly Oil Company.

## Summary of Wells Completed in the United States Week Ending December 26, 1936

| | Completions | Oil Wells | Gas Wells | Failures | Initial Production | Total Completions, 1936 | Total Completions this Date, 1935 |
|---|---|---|---|---|---|---|---|
| Alabama | .... | .... | .... | .... | ..... | .... | 4 |
| Arkansas | .... | .... | .... | .... | ..... | .... | 122 |
| California | 9 | 7 | .... | 2 | 6,150 | 1,089 | 840 |
| Colorado | 1 | .... | .... | 1 | ..... | 19 | 11 |
| Florida | .... | .... | .... | .... | ..... | .... | ..... |
| Illinois | .... | .... | .... | .... | ..... | .... | 9 |
| Indiana | .... | .... | .... | .... | ..... | .... | 173 |
| Kansas | 54 | 41 | 4 | 10 | 63,924 | .... | 1,369 |
| Kentucky | .... | .... | .... | .... | ..... | .... | 169 |
| Louisiana | 28 | 15 | 5 | 8 | 7,223 | 1,015 | 728 |
| Michigan | .... | .... | .... | .... | ..... | .... | 581 |
| Mississippi | .... | .... | .... | .... | ..... | .... | 19 |
| Montana | 4 | 2 | 1 | 1 | 110 | 193 | 170 |
| Nebraska | .... | .... | .... | .... | ..... | 1 | ..... |
| New Mexico | 9 | 8 | 1 | .... | 21,225 | 564 | 297 |
| New York | .... | .... | .... | .... | ..... | .... | ..... |
| Ohio | 25 | 4 | 16 | 5 | 104 | 1,923 | 1,532 |
| Oklahoma | 57 | 45 | 2 | 10 | 52,232 | .... | 2,400 |
| Pennsylvania | .... | .... | .... | .... | ..... | .... | 127 |
| Texas | 217 | 161 | 6 | 50 | 362,286 | 12,526 | 11,551 |
| Utah | .... | .... | .... | .... | ..... | .... | 1 |
| West Virginia | 1 | .... | 1 | .... | ..... | 599 | 575 |
| Wyoming | 9 | 3 | 1 | 5 | 2,303 | 102 | 69 |
| Total this week | 414 | 241 | 37 | 92 | 515,559 | 23,905 | 20,648 |
| Total last week | 440 | 303 | 34 | 103 | 426,155 | .... | ..... |
| Total this year | 23,905 | 16,030 | 2,241 | 5,590 | ..... | 22,291,050 | ..... |

**Comparison of Permits Granted for New Wells**

| STATE | Week Ending Dec. 26 | Total this Mo. | Total this Year | Total this Date Last Year | 1935 Year Total |
|---|---|---|---|---|---|
| Arkansas | 1 | 10 | 103 | 70 | 70 |
| California | 23 | 90 | 1,054 | 975 | 975 |
| Louisiana | 14 | 62 | 1,107 | 846 | 846 |
| Kansas | 59 | 174 | 1,873 | 1,204 | 1,304 |
| Michigan | .... | .... | .... | 749 | 749 |
| Oklahoma | 63 | 243 | 2,594 | 2,311 | 2,311 |
| Texas | 184 | 980 | 15,582 | 10,809 | 10,809 |
| Total | 344 | 1613 | 23,067 | 16,964 | 16,964 |

## PRODUCTION HIGH

### Stays at all-time peak level during past week

UNITED STATES crude production last week was practically unchanged from the all-time record proportions of the previous week. For three consecutive weeks the output has remained consistently above all previous peaks.

In the week ended December 26, the nation's crude production averaged 3,143,550 barrels daily. That was 4925 barrels a day more than the previous week's output as reported by THE OIL WEEKLY, but 2150 barrels a day less than the preceding week's production as reported by the American Petroleum Institute. Thus the new production rate was practically the same as in the previous week, on either basis of comparison.

The slight change in output from the previous week resulted from practically constant production levels in most of the states. The small fluctuations of different states ultimately about canceled each other.

Texas last week averaged 1,212,500 barrels daily, or about 5,000 barrels a day more than in the previous week and 67,300 barrels a day more than the Bureau of Mines recommendation.

Kansas also showed an increase, averaging 176,150 barrels daily, or 2550 barrels a day more than in the previous week and 20,250 barrels a day more than the state's federal allocation.

Louisiana output was up 2250 barrels at 242,000 barrels daily, and it showed an excess of 37,200 barrels daily over the Bureau of Mines suggestion.

Oklahoma production was down 1775 barrels a day below the previous week, but remained 28,600 barrels a day above the federal allocation.

California averaged 591,000 barrels daily, which was 4,000 barrels a day less than in the previous week and 37,600 barrels over the federal quota.

New Mexico output was off 100 barrels at 85,600 barrels daily, and it was 7300 barrels a day higher than the federal allocation.

## BOOST CAPACITY

### Shell's East Texas-Houston line enlarging

**Tyler, Texas.**—Shell Pipe Line Corporation is preparing to increase its trunk line capacity from the East Texas field to terminal at Houston from 43,000 barrels to 50,000 barrels daily by adding 3 booster stations to its 198-mile 10-inch carrier. Enlarged capacity is necessary in order to handle the large quantity of Rodessa crude purchased from United Pipe Line Company for delivery in 1937. The latter will deliver 4000 barrels daily, beginning January 1 to April 1, then increase to 10,000 barrels daily until the end of the year, to Shell Pipe Line Corporation's Kinsloe booster station and tank farm. Three 80,000-barrel steel tanks are to be added to this tank farm in order to accommodate Rodessa crude.

## United States Crude Oil Production

**Estimates Compiled by The OIL WEEKLY**

| DISTRICT OR STATE | Bureau of Mines Recommendation (Daily in Dec.) | ACTUAL PRODUCTION BARRELS DAILY FOR WEEK ENDING | |
|---|---|---|---|
| | | December 26 | December 19 |
| **TEXAS—** | | | |
| Texas Panhandle | ..... | 64,300 | 63,100 |
| North Texas | ..... | 65,100 | 66,200 |
| West Central Texas | ..... | 33,600 | 34,200 |
| West Texas | ..... | 166,700 | 166,400 |
| East Central Texas | ..... | 86,500 | 84,300 |
| *East Texas Field | ..... | 446,700 | 445,900 |
| South Texas | ..... | 180,200 | 179,100 |
| Texas Gulf Coast | ..... | 169,400 | 168,400 |
| *Total Texas | 1,145,200 | 1,212,500 | 1,207,600 |
| **OKLAHOMA—** | | | |
| Oklahoma City | ..... | 161,325 | 162,225 |
| Seminole Area | ..... | 131,750 | 134,675 |
| Tatums | ..... | 3,500 | 3,525 |
| Lucien | ..... | 13,750 | 12,250 |
| Fitts | ..... | 69,450 | 72,250 |
| Edmond | ..... | 16,350 | 15,025 |
| Others | ..... | 199,475 | 197,425 |
| Total Oklahoma | 567,000 | 595,600 | 597,375 |
| **KANSAS—** | | | |
| Ritz-Canton | ..... | 6,175 | 6,225 |
| Voshell | ..... | 2,725 | 2,750 |
| Nikkel-Hollow | ..... | 3,550 | 3,600 |
| Sedgwick | ..... | 4,825 | 4,925 |
| Burrton-Haury | ..... | 14,000 | 14,125 |
| Lorraine | ..... | 6,150 | 5,550 |
| Oxford | ..... | 3,150 | 3,200 |
| Others | ..... | 135,575 | 133,225 |
| Total Kansas | 155,900 | 176,150 | 173,600 |
| **LOUISIANA—** | | | |
| North Louisiana | ..... | 79,800 | 78,550 |
| Louisiana Gulf Coast | ..... | 162,200 | 161,200 |
| Total Louisiana | 204,800 | 242,000 | 239,750 |
| ARKANSAS | 26,800 | 27,900 | 27,700 |
| **CALIFORNIA—** | | | |
| Long Beach | ..... | 65,000 | 65,000 |
| Santa Fe Springs | ..... | 44,000 | 45,000 |
| Huntington Beach | ..... | 38,000 | 38,000 |
| Dominguez | ..... | 25,000 | 24,000 |
| Inglewood | ..... | 14,000 | 13,500 |
| Ventura Avenue | ..... | 33,000 | 34,000 |
| Seal Beach | ..... | 8,500 | 8,500 |
| Midway-Sunset | ..... | 64,000 | 69,000 |
| Elwood | ..... | 10,500 | 10,500 |
| Kettleman Hills | ..... | 78,000 | 78,000 |
| Mountain View | ..... | 21,500 | 21,500 |
| Playa del Rey | ..... | 10,500 | 10,500 |
| Others | ..... | 179,000 | 177,500 |
| Total California | 553,400 | 591,000 | 595,000 |
| **MOUNTAIN STATES—** | | | |
| Wyoming | 40,200 | 47,400 | 46,600 |
| Montana | 14,300 | 18,100 | 18,300 |
| Colorado | 4,500 | 3,800 | 3,800 |
| Total Rocky Mountain States | 59,000 | 69,300 | 68,700 |
| NEW MEXICO | 78,300 | 85,600 | 85,700 |
| EASTERN STATES | 110,600 | 115,600 | 114,100 |
| MICHIGAN | 29,300 | 27,900 | 29,100 |
| *Total United States | 2,930,300 | 3,143,550 | 3,138,625 |
| *Surreptitiously produced oil in East Texas, not included in above figures, estimated at | ..... | 8,000 | 8,000 |
| Grand Total, including surreptitious production | ..... | 3,151,550 | 3,146,625 |

# October Output Record

## BUREAU REPORT SHOWS PRODUCTION AT NEW HIGH

**Washington, D. C.**—Again breaking all previous records, daily average crude production in October hit 3,090,000 barrels, topping the August average, previous high, by 22,800 barrels and exceeding by 58,000 barrels the September figure of 3,032,000 barrels, it was reported December 10 by the Bureau of Mines.

Crude production for the month, the bureau announced, was 95,795,000 barrels, compared with 90,972,000 barrels in September and 88,160,000 barrels in October, 1935.

The heavy October output brought the total for the first 10 months of the year to 909,846,000 barrels, as compared with 818,755,000 barrels in the corresponding period last year.

Most of the gain in output was in Texas, the bureau states, the daily average production of the state jumping from 1,160,400 barrels in September to 1,205,600 barrels in October. This gain, it was commented, was closely related to a further increase in drilling activity, there being 862 wells completed in October, with an initial of 477,400 barrels, compared with 787 wells, with an initial of 373,800 barrels, in September. All the major districts of the state increased their output and bureau officials felt that undoubtedly many areas reached new peaks in production.

Production in California showed little change, the daily average remaining slightly under 580,000 barrels, but production in Oklahoma rose to the highest level since August, 1933, at 589,000 barrels, this gain resulting principally from increased runs in the Oklahoma City field. Production in Louisiana showed only a slight increase, but its average of 233,000 barrels was a new record. Production at Rodessa declined, for the second successive month, but the loss was more than made up in the Coastal fields. Kansas and New Mexico repeated their production performances of September, the former showing a small decline to an average of 166,400 barrels, the latter establishing a new high at 81,900 barrels.

### Supply and Demand of All Oils

**(Thousands of barrels of 42 gallons)**

| | October, 1936 | September, 1936 | October, 1935 | Jan.,-Oct., 1936 | Jan.,-Oct., 1935 |
|---|---|---|---|---|---|
| **New Supply:** | | | | | |
| Domestic production: | | | | | |
| Crude petroleum | 95,795 | 90,972 | 88,160 | 909,846 | 818,755 |
| Daily average | 3,090 | 3,032 | 2,844 | 2,983 | 2,693 |
| Natural gasoline | 3,830 | 3,584 | 3,574 | 34,260 | 31,606 |
| Benzol[1] | 230 | 216 | 174 | 2,063 | 1,507 |
| Total production | 99,855 | 94,772 | 91,908 | 946,169 | 851,868 |
| Daily average | 3,221 | 3,159 | 2,965 | 3,102 | 2,802 |
| Imports:[2] | | | | | |
| Crude petroleum: | | | | | |
| Receipts in bond | 93 | 220 | 597 | 1,946 | 6,202 |
| Receipts for domestic use | 2,862 | 2,624 | 1,880 | 25,011 | 20,459 |
| Refined products: | | | | | |
| Receipts in bond | 1,919 | 1,764 | 918 | 15,304 | 10,154 |
| Receipts for domestic use | 453 | 595 | 414 | 5,116 | 7,325 |
| Total new supply, all oils | 105,182 | 99,975 | 95,717 | 993,546 | 896,008 |
| Daily average | 3,393 | 3,333 | 3,088 | 3,258 | 2,947 |
| Decrease in stocks, all oils | 5,049 | 9,686 | 6,732 | 14,269 | 17,293 |
| **Demand:** | | | | | |
| Total demand | 110,231 | 109,661 | 102,449 | 1,007,815 | 913,301 |
| Daily average | 3,556 | 3,655 | 3,305 | 3,304 | 3,004 |
| Exports: | | | | | |
| Crude petroleum | 4,708 | 5,025 | 4,810 | 42,373 | 42,991 |
| Refined products | 6,518 | 6,785 | 5,950 | 65,385 | 61,146 |
| Domestic demand: | | | | | |
| Motor fuel[3] | 44,253 | 44,346 | 41,401 | 402,279 | 362,866 |
| Kerosene | 4,370 | 4,305 | 4,520 | 40,388 | 37,847 |
| Gas oil and fuel oil | 36,013 | 34,151 | 32,534 | 330,476 | 294,713 |
| Lubricants | 1,911 | 42,059 | 1,820 | 18,917 | 16,589 |
| Wax | 96 | 480 | 97 | 895 | 775 |
| Coke | 601 | 529 | 638 | 5,199 | 5,486 |
| Asphalt | 2,504 | 2,974 | 1,949 | 19,415 | 14,516 |
| Road oil | 631 | 1,108 | 558 | 7,132 | 6,320 |
| Still gas | 4,680 | 4,743 | 4,273 | 45,407 | 42,081 |
| Miscellaneous | 193 | 215 | 147 | 1,897 | 1,728 |
| Losses[3] | 3,753 | 3,341 | 3,752 | 28,052 | 26,243 |
| Total domestic demand | 99,005 | 97,851 | 91,689 | 900,057 | 809,164 |
| Daily average | 3,194 | 3,262 | 2,958 | 2,951 | 2,662 |
| **Stocks:** | | | | | |
| Crude petroleum | 292,271 | 295,693 | 317,155 | 292,271 | 317,155 |
| Natural gasoline | 4,555 | 4,945 | 4,384 | 4,555 | 4,384 |
| Refined products | 230,605 | 231,842 | 225,316 | 230,605 | 225,316 |
| Total, all oils | 527,431 | 532,480 | 546,855 | 527,431 | 546,855 |
| Days' supply | 148 | 146 | 165 | 160 | 182 |

[1] From Coal Division. [2] Imports of crude as reported to Bureau of Mines; imports of refined products from Bureau of Foreign and Domestic Commerce. [3] Beginning January, 1936, natural gasoline losses are included in motor fuel demand. [4] Revised.

Crude runs to stills declined in October but remained above the three million barrel mark at 3,005,000 barrels a day. The decrease in runs in the face of increased production, it was pointed out by the bureau, means that current production supplied a higher proportion of the demand in October than in September. The yield of gasoline for the month reached 45.2 percent, the first time since July, 1935, that it has exceeded a flat 45 percent.

"The domestic demand for motor fuel," the bureau stated, "continued to exceed predictions, the daily average for October of 1,428,000 barrels being 6.6 percent above the supposedly abnormally high figure of October, 1935. Exports of motor fuel totaled 2,491,000 barrels, exactly the same as in September Stocks of finished and unfinished gasoline showed little change, the total for October 31, 57,662,000 barrels, being only 138,000 barrels below the total for the first of the month."

## TAXES DOWN

### Federal gasoline revenue shows decline

**Washington, D. C.**—Sharply reduced consumption of gasoline and lubricating oil is disclosed by figures made public this week by the Bureau of Internal Revenue showing a drop of more than $8,000,000 in collections from the gasoline tax in November as compared with October and almost as great a loss as compared with November, 1935.

Gasoline tax collections for the month, the bureau reported, were $12,980,998.46, compared with $21,024,801.81 in October and $19,769,697.61 in November, 1935.

Lubricating oil tax receipts were $1,878,392.02, against $2,966,616.33 in October and $2,747,025.83 in November of last year.

There was also a decline in receipts from the tax on the transportation of oil by pipe line, which amounted to $720,738.59 for the month compared with $996,163.65 in October and $876,420.16 in November a year ago, but tax payments on crude petroleum processed increased from $71,896.98 in October to $74,189.51 in November, where they compared with $75,915.75 for November, 1935.

With the exception of the gasoline tax, which showed an increase of nearly $10,000,000, receipts from all of the oil industry taxes for the 11 months ended with November were below those of the corresponding period last year, according to bureau figures.

Gasoline tax collections for the 11 months were $170,058,537.61 against $160,279,796.24 for 1935, but lubricating oil taxes were $26,444,387.39 against $26,945,067.76; pipe-line transportation taxes $8,520,027.46 against $8,663,720.10; and processing taxes $789,644.23 against $1,628,106.49.

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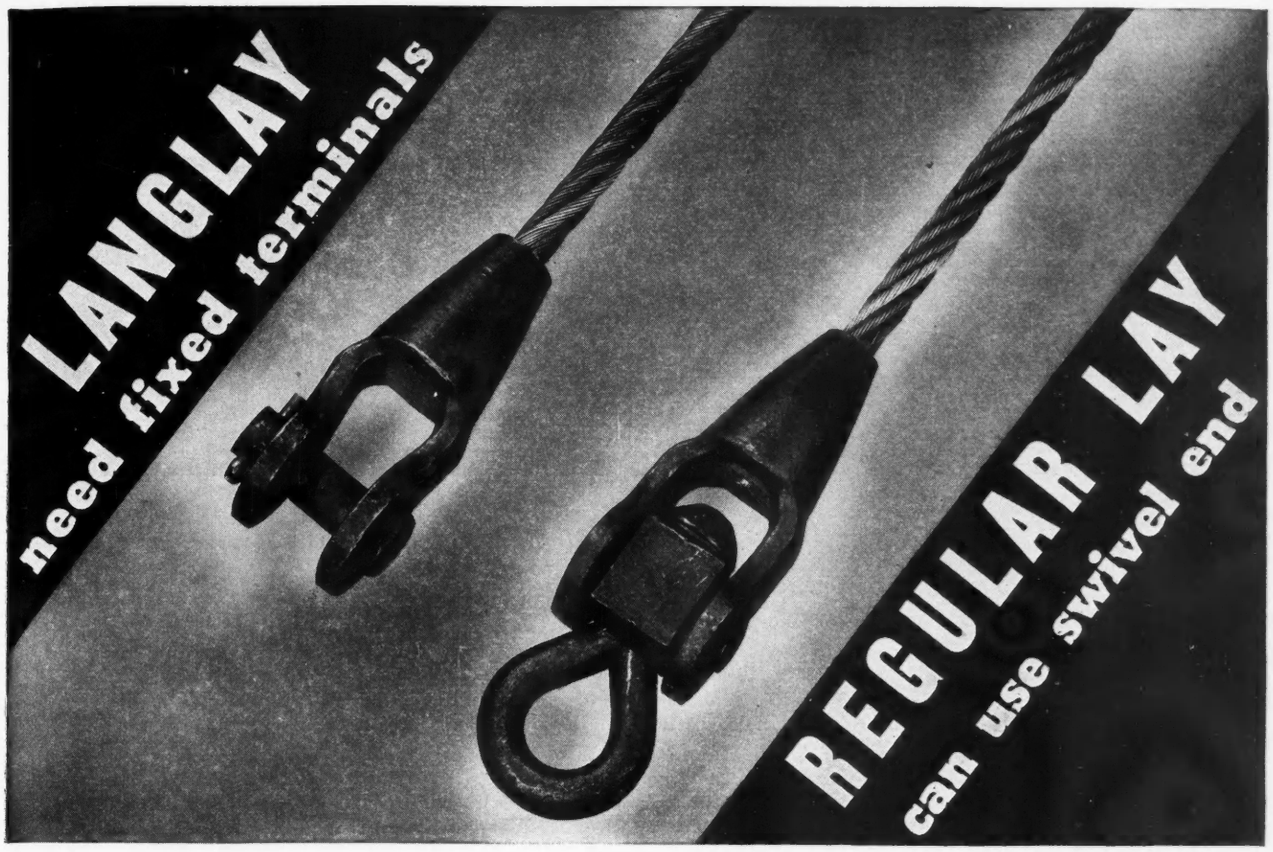
**Tulsa.**—The Margay Oil Company, in meeting the need for increased office space due to the continued growth of the company, has taken an office on the sixth floor of the Oklahoma Natural Gas Building.

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Edited by
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# Albania's Fields

## WOULD BE IMPORTANT TO ITALY IN CASE OF WAR

By RUDOLF SEIDEN, C. E.,
Kansas City, Missouri[1]

OIL was known to exist in Albania even in ancient times. The writers of that time describe frequently the "Eternal Fires," which were the subject of religious ceremonies. One can read about them in Strabo and Cassius. For centuries the Albanians have obtained asphalt from Selenica in the Vjosa valley and have converted it to uses of all kinds.

Previous to the outbreak of the World War there was little foreign interest in the investigation and working of the bitumen deposits or oil and gas resources of this small, undeveloped country. Only one scientific investigation of Albania's resources is reported prior to the World War. It was directed by the French geologist Coquand and was not exhaustive. This may have been the motive for the investigation during the war by the authorities and by private interests of Austro-Hungary and after the war by the Italians. Then, the Albanian government summoned foreign geologists and commissioned them to survey the country's resources. Among the men so commissioned were: Captain Plate of Milan, who investigated the south Albanian fields; Dr. Ernst Nowak of Vienna, who collaborated with Albanian geologists; Dr. N. Maddalena, who represented the Italian government and investigated particularly the Adriatic coast; Professor Dr. N. Zuber of Lwow, Poland; and others.

These men were there to gather evidence that Albanian oil was more than a possibility and hope; and they came to the conclusion, independently of each other, that it would be worthwhile to drill. It is therefore, not astonishing that soon many oil companies of the world sought concessions from the Albanian government.

### Early Concessions

At that time only the Italian Societa Delle Miniere Di Selenizza possessed rights to exploit the already mentioned asphalt pits of Selenica. Moreover, the Italians drilled the first successful wells six miles from Valona, in the Sushica valley. Nevertheless the first oil concession (which covered 85,000 acres) was not received by the Italians who had so diligently surveyed the region, but by the silent observer, Great Britain; namely the Anglo Persian Oil Company, now the Anglo-Iranian Oil Company. Altogether this company was offered nearly 500,000 acres for investigation purposes and nearly 125,000 of that for exploitation. This was on February 18, 1925. Five weeks later, on March 27, two Italian concessions in Tirana were granted: one was received by the Ferrovie Dello Stato

[1] Formerly of Vienna, Austria.

# To Explore Albania

## CONCESSION EXTENSION CALLS FOR DRILLING 10 TESTS

Probability of exploratory drilling in Albania during 1937, 1938 and 1939 is seen in the action of the parliament in granting an extension to an exploratory concession involving some of the nation's most likely prospective oil areas and embodying definite drilling obligations.

Syndicat Franco-Albanais, now understood to be merged with the Malopolska group of Societe Francaise Industrielle et Commerciale des Petroles, capitalized in Paris for 196,818,500 French francs, has been granted a three-year extension on a concession to explore for oil in the so-called petroliferous zones of Valona, Berat, Korcha and Scutari, according to a communication received December 18 from Tirana, Albania. Ten wells must be drilled in three years.

Drilling will start soon on the concession, for adherence to terms of the agreement by the company has been cinched by the government in requiring the company: to deposit with the bank 500,000 gold francs in the company's mortgage bond, to pay immediately a fixed fee of 36,000 gold francs. Moreover, the company agrees to guarantee living up to terms of the concession by putting up as collateral all the material it has already in Albania or that it may import into Albania. Syndicat Franco-Albanais agrees, furthermore, to deposit with the bank in Albania 20,000 gold francs to be held until the necessary new material (presumably rigs and drilling equipment) has been imported, which must take place within six months.

Within the three year period the company must drill at least 10 wells at different points on the concession and each of these must be drilled to at least 1000 meters (about 3390 feet). If the company falls down on this part of the agreement, it must pay a maximum indemnity of 360,000 gold francs to the government. However, in the event of partial fulfillment of the agreement, the company will receive a credit on the above 360,000 francs of 32,400 gold francs for each test drilled to the specified depth.

The concession, as approved by the Albanian parliament, provides the government authorities with full supervisory power over operations of the company, which agrees to notify the government of any new work and agrees not to start without a written understanding on work to be done outside the perimeter of the concession.

If production developed on the concession reaches 50,000 tons (about 350,000 barrels) annually, the company must build one or more refineries in Albania, and the government may purchase up to 20 percent of the yield of the refinery, or refineries, at 10 percent less than current prices.

d'Italia (three zones including altogether 116,000 acres) and the other by the "Societa Delle Miniere Di Selenizza," which previously had taken only asphalt out of Albania (Oil concession: 5310 acres). Other concessions followed at short intervals: two zones including 127,000 acres to the American Standard Oil Company of New Jersey; a mining concession of 21,120 acres to the English industrialist Henry Herbert Rushton; and the sixth of the concessions, which were sold in 1925, including 74,000 acres, was received by the French syndicate Franco-Albanaise. This syndicate was founded from the Credit Generale des Petroles, which today is called the Societe Francaise Industrielle et Commerciale des Petroles.

### Only Italians Fulfill Obligations

In each of the concessions named, the receiver was obliged to pay the Albanian government a yearly rate of 1.50 Gold Francs per 2.75 acres, as well as a 13.5% tax on gross production. Furthermore, each concessionaire was required to accept a 60-year program of operations. As yet, 10 years have passed and only the Italians have fulfilled their obligations! Therefore all but the Italian concessions have expired.

Many, not all, of the companies once interested have drilled wells, especially the French and English companies. They have all, however, come to the conclusion that for the present at least it would not be economically advantageous to make large investments in Albania. Only the Italians, who have not their own oil and who are favorably situated geographically, are justified in remaining in the Albanian oil fields. They desired to create a convenient oil base and have done so.

### Monopoly for Italy Thus Far

Italy alone has developed Albania into an oil exporting country. On December 22, 1935, the Italian tanker Maya carried for the first time crude oil from Valona harbor to the refineries of the Azienda Generale Italiana Petroli, (AGIP), at Fiume and Venice. The oil policy of Italy has therewith established a significant victory!

What are the Italian investments in Albania and what are the fruits of these investments? Let us consider now the figures of the Italian development.

In 1925 the Italians began drilling operations in Albania with 30 million lire at their disposal, appropriated by the Italian government. In 1927 an additional 50 million was appropriated, and in 1929, 70 million lire was required. The operations were carried on by Azienda Italiana Petroli d'Albania, (AIPA), which is closely related to the previously mentioned AGIP. The AIPA is founded and subsidized by the Italian government.

The AIPA, which in the first two years of its activity had drilled only 10 tests, extended its drilling rights to 405,000 acres and accelerated its operations. At the end of 1933, 48 soundings with a total of 69,000 feet had been drilled and today, more than 60 soundings with a total of approximately 90,000 feet have been drilled.

In 1926, about 1000 tons of oil were produced (and for the first time this fact was published by the government). In 1927, 1500 tons were produced, and up to the end of 1934 the production was between 2500 and 3000 tons per year. The Italians produced oil from the fields of Devoll and Kucova for the first time in 1930. Today, as this section approaches complete development, it is spoken of as the center of the Albanian oil operations. The oil obtained here has high gas content and medium gravity. It comes from the upper Miocene strata, which is from 800 to 1000 feet deep.

### Other Development

Other Italian oil developments in Albania are found in Patos, Penkova, Selenica, Vlajna, Trevlaser, Selevec, Buzmazi and Sikovun, all of which are inland from Valona. Through the entire region a pipeline has been laid along the new Italian-built road. It serves the Devoll-Kucova fields, passes Fieri, Roskovec, Skrafotine, and terminates at Uji-i-Ftohet in the Bay of Valona. It has a total length of 44 miles. At the head station there are two storage tanks with a capacity of about 141,000 cubic feet each; in the harbor six tanks of about 176,500 cubic feet each have been erected. Wharfs have been constructed for the loading of tankers. Owner of all these establishments is the AIPA.

The pipeline can dispatch 100 tons of crude oil daily. The wharfs in the harbor have been designed to handle 300,000 tons per year. These figures should give us some idea of what to expect in the future.

The Italians expect to ship at first 100,000 tons of oil yearly and in the near future 300,000 tons. At present, however, Italy consumes over 2 million tons of oil products annually. One sees, therefore, that even though the Albanian development fulfills Italy's expectations it will not materially affect the Italian trade balance. But, as Italy has spent and continues to spend much capital, energy, and time in Albania, in spite of the fact thaat other interests have given up, it should be immediately evident that Italy is building a military oil base. Such a base would be accessible always for its war ships and airplanes.

The limit of Albanian oil reserves is estimated to be 10 million tons. This is a sixth of the untouched oil reserve of Roumania. While Europe could meet its oil demand for only a few week's Italy's supply in Albania would last about five years. This small but certain oil supply would therefore only in the case of war be of the greatest importance to Italy!

## 26 COMPLETIONS

### Mexico's wells have total initial of 26,091 barrels

Twenty-six oil wells with an average combined daily production of 26,091 barrels were brought in during the first nine months of this year in the Isthmus of Tehuantepec (southern Mexico) region and Vera Cruz, Tamaulipas and Coahuila states, announces the ministry of national economy.

Mexico's oil production this year up to September 30 totaled 30,327,759 barrels, a daily average of 110,685 barrels, as compared with 40,234,902 barrels, a daily average of 110,233, in all 1935, the ministry reports.

## MEXICO

### Completions

| Company, Well and Location | | Init. Prod. Bbls. | Depth |
|---|---|---|---|
| NUEVO LEON— | | | |
| Cia. Petrolera Aldamas y Bravo, Zacate 5, Gen. Bravo municipality | ¶ | 1½ | 4210 |
| PUEBLA— | | | |
| Metlal Pet. Co., Metlaltoyica 1, Mena municipality | | * | 10,400 |
| VERA CRUZ— | | | |
| Petroleos de Mexico, Petromex 5, Fed. zone, Minatitlan | | 20 | 2430 |
| Richmond Pet. Co., Cuichapa 4, Moloacan | | * | 2575 |

*Failures; †Junked; ¶Million cu. ft. gas.

## VENEZUELA STRIKE

### Military protection is given to relief men

Venezuela's government has guaranteed a constitutional right to work to those desiring to replace strikers in the Maracaibo area and has backed up the guarantee by providing military protection for such workers, The Oil Weekly was informed in a telegram December 22.

The strike became effective December 14 because the oil companies refused to make any concessions to what they considered unreasonable demands on the part of the labor syndicate at Maracaibo. They refused also on the grounds that the present scale of high wages paid by the oil industry in Venezuela already is working a hardship on agriculture and other industries there.

Demands of the labor syndicate at Maracaibo included a minimum wage of 10 bolivars daily, double pay for work on holidays, equal pay for all workers, a month annual vacation for laborers with wages in advance, transportation for men living more than one kilometer from work, erection of meeting halls for syndicate sessions, employment only of syndicate members, re-employment of all discharged in past strikes, no discharges to be made for any cause without permission of the syndicate; the demands included, also, a demand for the "discharge of any laborer or employee, whether native or foreign, in any category, who may be considered prejudicial to interests of workers."

Officials of Standard Oil Company of New Jersey, operating through subsidiaries in Venezuela, previously announced, (December 15) that the strike of the workers had temporarily tied up production of crude oil in the Lake Maracaibo district, which embraces several fields. About 7000 men were reported involved.

## NEW FIRM FORMED

A new petroleum company, the Compania Petrolera Larios, has been constituted here for the purpose of acquiring concessions in Mexico to explore and exploit all classes of oil. The company has a capital of 100,000 pesos (some $28,000) and a 50-year franchise. Its sponsors are Engineer Javier Basanez and Oscar F. Viniegra.

# *Extend Billings*

## FOURTH WILCOX SAND WELL PROVES A GOOD PRODUCER

WEEKLY STAFF REPORT

**Tulsa.**—Features of drilling operations in this sector last week were a new producer in the Billings sector of Noble County and an abandoned test in the ill-fated Chiles Dome area of Coal County. The Fitts field of Pontotoc County continued to be the steadiest area in Oklahoma.

The new producer is Tide Water Associated Oil Company Hackett 1, NE NW SE 21-23n-2w, in the Billings pool of Noble County. It came in to flow approximately 80 barrels of oil during the last hour of a 13-hour test. The production was presumably from the second Wilcox sand, although operators were hesitant about making a definite statement regarding the formation. Early in the week, a core taken from between 4330 and 4335½ feet was highly saturated. The flow, which was had through tubing, amounted to 875 barrels of oil for 13 hours. Operators swabbed about 1000 feet before opening the well for the flow, which was accompanied by from 3,500,000 to 4,000,000 cubic feet of gas.

This is the fourth Wilcox producer for the old Billings field and extends production a fourth of a mile to the southwest in that formation. Wilcox sand became a producer at Billings in February of this year, when Shell Petroleum Corporation and Phillips Petroleum Company completed McCaughtry 1-A, NEc 21-23n-2w, for initial production of around 400 barrels in an hour at 4235-58 feet.

Another disappointment went on record when Shell Petroleum Corporation decided to plug and abandon Hill 4-A, C SW 30-3n-10e, in the Chiles Dome of Coal County. The test topped Bromide at 5587 feet, McLish sand at 5689 feet, and drilled ahead to 5802 feet. A drill stem test was made at this depth and the well flowed 690 feet of mud and salt water in 30 minutes.

This well was in operation almost as long as the first "try" drilled by Shell Petroleum Corporation in the area, Hill 3, SEc NW 30-3n-10e, which was started December 18, 1935, and was dry and abandoned August 19, 1936 at 6457 feet. It had about 75,000 cubic feet of gas at 4270 feet, only a month or so before being abandoned.

Of interest to many is the word that location has been made for two repressuring wells in the area north of Avant in Osage County by Wolverine Oil

### *New Charges*

[*Continued from Page 8*]

"but appellate courts are very strict in these matters."

In the first of the new indictments, Tide Water Associated Oil Company, New York, a Delaware corporation, is added to the list of corporate defendants originally charged on July 28. The names of R. G. A. van der Woude, president of Shell Union Oil Corporation, and E. W. Sinclair, president of Sinclair Refining Company, are dropped from the list of individual defendants, while the name of Fred L. Koopman, of Phillips Petroleum Company, is substituted in the new indictment for that of H. E. Koopman, who was named in the July 28 indictment.

Van der Woude's name is retained in the second indictment returned this week. Marathon Oil Company, Tulsa, Okla., named in the November 6 indictment, is dropped from the second of the new indictments. At the hearing here December 7, it was explained by defense counsel that the company has been dissolved and now is Ohio Oil Company.

In a third indictment returned this week, William A. Tracey, Jr., Fort Worth, is charged with "perjury" before a former grand jury. Tracey had been under indictment by the old grand jury for alleged perjury, but these charges were dropped on December 11. He had been resubpoened to testify before the new grand jury, it was learned, and was en route to Madison to appear when he was notified that he would be too late.

By speedily obtaining new indictments, the government hopes to avoid loss of time in bringing the anti-trust suits to trial. Removal hearings scheduled under the original indictments are to begin in New York January 7, to be followed by removal hearings in Chicago and other centers. In the event the old indictments are dismissed early next month, government attorneys will seek to maintain the same schedule of removal hearings on the new indictments, so far as possible.

## PIPE LINE NEWS

### LINE STARTS RUNS

#### Connects Flour Bluff to Humble's Viola carrier

**Corpus Christi.**—Humble Pipe Line Company started running oil through its new Flour Bluff, Nueces County, pipeline December 22. The line, 18½ miles long, connecting this field to the company's main line at the Viola Pump Station, has a capacity of 9,000 barrels per day. It is of four-inch pipe from the field to the Chapman Ranch road, nine miles, and of eight-inch pipe the remainder of the distance to the main line connection.

Two new storage tanks have been constructed. A 55,000-barrel tank has been erected in the field and an 80,000-barrel tank has been built at Viola.

This is the third pipe line project by the Humble concern this year in the lower coastal area. A 21½ mile, six-inch main was built from the Quintana Pump station in the Tomoconnor field to the Heyser field. It has a capacity of 12,000 barrels of light oil or 11,000 barrels of heavy oil per day. This line was extended five miles with four-inch pipe to the Placedo field. The capacity of this portion of the line is 6,000 barrels per day.

**San Angelo, Texas.**—Humble Pipe Line Company will materially increase its trunk line capacity out of the West Texas-New Mexico district shortly after the first of the year. The company has facilities for the handling of about 95,000 barrels daily from its main terminal at Kemper station, near the Big Lake field, Reagan County, via two 8-inch lines through Comyn to Webster and a combination 10-inch and 12-inch carrier to Ingleside, near Corpus Christi. Current crude runs are taxing the capacity of the lines. Reports indicate that loops may be added between the Church & Fields area, Crane County, and McCamey, and to the combination line extending south from Kemper. The company must also eventually provide larger facilities in the system that serves a group of fields in Ector and Andrews County before it can compete for oil runs in new areas recently opened in the north portion of the Permian Basin.

### ADD STATIONS

**Tyler, Texas.**—Humble Pipe Line Company has completed construction work on 3 new mainline stations on its 65-mile, 8-inch trunk line that links the Talco field with one of its Longview-Louisiana 10-inch lines. The company found it necessary to install a booster station at 16-mile intervals between Talco and Longview, due to the high cold test of Talco crude. Capacity of the Talco outlet, using a single station in the field, was rated at 350 barrels per hour when the line began operating last October 1, but cold weather lowered the capacity to about 175 barrels per hour under 700 pounds working pressure.

Corporation, Sinclair Prairie Oil Company and Phillips Petroleum Company, the three companies which are operating the repressuring program being carried out in the district. The wells will be No. 43, in the approximate SW SE NE 31-24n-12e, and No. 17 in the approximate NEc SE 31-24n-12e. The companies recently obtained permission from the government to operate on the project.

**Fitts Routine**

Operations in the Fitts field of Pontotoc County were routine. Magnolia Petroleum Company's Norris 8, SW NW SE 21-2n-7e, drilled to 3940 feet in the Hunton lime and was acidized with 8000 gallons. The potential on the well was estimated at 2550 barrels of oil. No gas gauge was taken. The company's Simpson 6, NW SE NE 29-2n-7e, was given a 24-hour potential of 1682 barrels of oil.

Skelly Oil Company's Park College 16, NE SW NE 28-2n-7e, received a potential of 4566 barrels of oil. Its Metropolitan Life Insurance Company 2, NW SE SW 23-2n-7e, drilled to 4310 feet in the Viola lime and was acidized with 15,000 gallons. It flowed 15 barrels of oil in six hours December 17, and the following day made 25 barrels of oil in eight hours through casing. The same company's Metropolitan Life Insurance Company 4, SE NW SW 23-2n-7e, drilled to 4115 feet in the Viola lime and was reacidized with 5000 gallons. The hole was loaded with oil and flowed 347 barrels of oil in six hours through tubing. It was shut in to take potential.

Skelly Oil Company's Metropolitan Life Insurance Company 7, NW SE SW 23-2n-7e, drilled to 4310 feet in the Viola lime and was acidized twice, first with 15,000 gallons and later with 5000 gallons. After being given a 160-barrel oil load, the well flowed 326 barrels of oil in five hours, following which it was shut in. Metropolitan Life Insurance Company 3, NE SE SW 23-2n-7e, drilled to 4078 feet in the Viola lime and was reacidized with 15,000 gallons. Following acidization, the well flowed 311 barrels of oil in five hours and was shut in.

J.E. Crosbie et al's Harden 3-B, NE SW NE 30-2n-7e, was given a potential of 822 barrels of oil. The same interests' Burris 3-B, SW SE NW 27-2n-7e, made a potential of 1814 barrels of oil. Crosbie's Burris 1, NE SW SE 22-2n-7e, drilled to 4340 feet and was acidized with 10,000 gallons. It made an estimated potential of 1068 barrels of oil and had 1,450,000 cubic feet of gas.

Blackstock Oil Company's Harden 4-A, SEc NW 30-2n-7e, made a potential of 2520 barrels of oil. Its Moody 3, NE SW SW 23-2n-7e, flowed from 4391 feet in the Bromide lime after being acidized with 15,000 gallons and made an estimated potential of 826 barrels of oil. No gas gauge was taken. The company's Daniels 2-A, SEc SW 21-2n-7e, was given a 24-hour potential of 5138 barrels of oil, production coming from the Hunton lime.

E. H. Moore, Inc., et al's Wirick 9, NW SE NW 29-2n-7e, made a potential of only 83 barrels of oil. The concerns Burris 3, NE NW SE 22-2n-7e, found top of the Hunton lime at 3624 feet and at 3686 feet, made 206 barrels of oil in one hour through casing. The same interests' Moody 2-A, NE NW NW 26-2n-7e, made a 24-hour potential of 4778 barrels of oil from 2794 feet in the Hunton lime, and its Schaurer 2-A, SW NW SW 29-2n-7e, made a potential of 797 barrels of oil.

Sinclair Prairie Oil Company's Moody 1-A, NEc SE 22-2n-7e, came into production from the Hunton lime at 3645 feet, and flowed 320 barrels of oil in one hour through casing and 290 barrels of oil in one hour through tubing. It was shut in following acidization with 10,000 gallons. The company's Burris 16, NW NE NW 27-2n-7e, made a potential of 4697 barrels of oil from the Hunton lime at 3505 feet. Its Wooley 8-A, SE SW SW 22-2n-7e, drilled to 3595 feet and was acidized with 10,000 gallons. Tested for one hour, the well flowed 213 barrels of oil through tubing and 579 barrels of oil through casing. It was shut in to take potential.

Mid-Continent Petroleum Corporation's McKoy 4, SW SE SW 20-2n-7e, topped the Viola lime at 4050 feet and set seven-inch casing at 4064 feet. After drilling to 4265 feet, the well swabbed 40 barrels of oil and was swabbed down. December 21 the well flowed 60 barrels of oil.

Samedan Oil Company's Bates 1-A, SE NE NE 27-2n-7e, was given a 24-hour potential of 5066 barrels of oil from the Hunton lime. The hourly flows were as follows: First hour, 246.88 barrels; second hour 226.64 barrels; third hour 213.64 barrels and the fourth hour flowed 192.99 barrels of oil.

Shell Petroleum Corporation's Bates 1, SE NE NW 20-2n-7e, drilled to 4090 feet in the Hunton lime and took a drill stem test. Operators found 1500 feet of mud and water in the hole after drilling to 4145 feet.

Carter Oil Company's Richards 22, SW SE SE 30-2n-7e, made 3324 barrels of oil in 24 hours from 4370 feet in the Wilcox sand and was completed. Stahl Petroleum Corporation's Dennis 4-B, SE SW SW 21-2n-7e, made a 24-hour potential of 4108 barrels of oil from the Hunton lime at 3840 feet. Akin Oil Company's Daniels 1-A, SW NE SW 21-2n-7e, was given a 24-hour potential of 4303 barrels of oil.

Interest in the Jesse pool of Pontotoc County still centered around Continental Oil Company's Thompson 1, SW NW SE 2-1n-7e, which topped Viola lime at 4120 feet and at 4140 feet, found 500,000 cubic feet of gas. At 4240 feet a stain of oil was found, and at 4270 feet, the gas increased slightly. Later in the week, the well drilled ahead to 4365 feet and was spraying from 10 to 15 barrels of oil per day, accompanied by about 2,000,000 cubic feet of gas.

Manahan Oil Company's Black 3, NEc SE 25-10n-8e, in the north extension of the Olympic pool of Okfuskee County, drilled from 1734 to 1774 feet in sand and was shot with 80 quarts. The well is estimated good for about 900 barrels of oil daily.

Fleetborn Dil Company's Tanner 1, NWc SE 28-17n-5e, south of Cushing in Lincoln County, plugged back to 3995 feet and flowed 35 barrels of oil in 12 hours through tubing with no water showing.

## NEW SANDS FOUND

### Fourth zone picked is up by Tillman wildcat

**Ardmore.**—Interest in southern Oklahoma last week centered around the finding of a new sand in the test south of Frederick in Tillman County, and the possible abandonment of another deep test in Stephens County.

Indian Territory Illuminating Oil Company and Foster Minerals Corporation's Hatler 1, C SW NE 32-2s-17w, picked up a new sand at 4060 feet and cored from 4067 to 4070 feet, recovering two feet of the sand which was dry. Another core taken between 4074 and 4077 feet also yielded dry, sandy lime. Another sand was found from 4227-35 feet.

Ed V. Parsons et al's Olson 1, C SW SW 21-2n-8w, in the Marlow area of northwestern Stephens County, was drilling ahead below 6695 feet after freeing stuck drill pipe at 6646 feet. No new shows have appeared in the well and reports from the area state there is a possibility that the well might be abandoned within the next few days unless some show of oil is had.

A dry hole in the county was Duncan and Fisher's Cummings 1, SEc NW 27-1s-8w, seven miles southwest of Duncan, which, after finding nothing but salt water in a sand had from 1492 to 1500 feet, was dry and abandoned.

Pace Petroleum Company's Massey 1-B, NE NW NW 12-2s-8w, was completed as a 15-barrel well. Production was from a sand had from 2122 to 2133 feet.

Hartman & Jordan's Hupp 1, NE SW NW 15-3s-5w, in the Loco sector, was moving in pump for the completion of a small oiler at 1482 feet.

C. V. Morris et al's Culbertson-Young 1, NEc 32-2s-10w, in the Lawton sector of Comanche County, was flowing 36 gravity oil by heads through two-inch tubing from around 900 feet. It is estimated the well will be completed for about 30 barrels of oil daily. The well is a south offset to the C. D. Frazee lease, in the southeast of 29-2n-10w, which has two wells which have been producing for more than 20 years.

## NEW MOORE WELL

### Leading result during a quiet week in district

**Oklahoma City.**—Operations were very slow in this part of Oklahoma last week. A late completion in the Moore pool continued good production and several new locations were made in the Oklahoma City pool where operators are still feeling out the limits of Oklahoma's Number One strike for 1936.

Anderson Prichard Oil Company's State 1, SWc SE 16-10n-2w, in the Moore pool of Cleveland County, flowed 1207 barrels of oil in 24 hours and had 9,500,000 cubic feet of gas. Operators were testing the top of the Wilcox sand at 7256 feet.

Stanolind Oil & Gas Company and Amerada Petroleum Corporation's Pfeiffer 5, C SE SW 33-20n-2w, in the Lucien pool of Logan County, topped the Wilcox sand at 4858 feet and had the first oil at 4861 feet. After drilling to 4865 feet, the well was estimated to be making about 40 barrels of oil per hour, the production

coming from the first Wilcox sand. Later in the week the flow had dropped to 25 barrels of oil per hour.

In the Oklahoma City field, several starts were being made. W. E. Ramsey made location for No. 1, in block 2 of Rupley Fairies addition, in the Fairgrounds area of the field. Hugh Hodges' Fairpark 1, in the same sector, spudded and set surface pipe.

Bryan Petroleum Company's No. 1 was a location in block 4, lot 21, of Howes Capitol addition. Southwest Petroleum Company made location for a test in block 12 of the same addition and Inland Development Company made location for Capitol 1, in block 5, Second State Capitol addition, near Sixteenth and Phillips.

John S. Pine started No. 1, in block 10, Classen North Highland addition, and William A. Henderson made location for No. 1 in block 9, Second State Capitol addition. Another new start is Clinkscales and Brown's Mee 1, in block 2, Oak Park addition, near Tenth and Laird.

# OKLAHOMA

## Completions

| Company, Well and Location | Init. Prod. Bbls. | Depth |
|---|---|---|
| CADDO COUNTY— | | |
| Ohio Oil, Rowe 2, se nw ne 36-6n-2w (pb 5055) | * | 6958 |
| CARTER COUNTY— | | |
| Cox & Hammon, Wesley 29, nw sw sw 3-4s-3w | 43 | 1075 |
| Kewanee O & G, Ott 1, sw ne se 4-4s-3w (otd 961) | 7 | 1120 |
| Smith 22, ne se nw 5-4s-3w (pb 1047) | * | 1495 |
| Sinclair Prairie, Million-Thomas 3, nw sw se 5-4s-3w (otd 874) | * | 1028 |
| A. Franklin 8, nw sw nw 9-4s-3w | 20 | 1119 |
| CLEVELAND COUNTY— | | |
| Sinclair Prairie, Holmes 1, ne ne se 28-10n-2w, 16M | 10,123 | 7273 |
| CREEK COUNTY— | | |
| Spartin, Morrison 15, ne sw ne 8-18n-11e | 5 | 1730 |
| Sinclair Prairie, Jones 7, sw ne nw 4-17n-7e | 7 | 2600 |
| Shibley Oil, Timothy 3, csw nw 13-17n-7e (otd 2005) (pb 2000) | 10 | 3185 |
| Jake Scott et al, Hawkins 1, nw sw se 5-18n-7e | 5 | 2777 |
| HUGHES COUNTY— | | |
| Canavan & Davis, Meadors 2, sw ne se 5-8n-10e (pb 3137) 2 M | 4 | 3147 |
| LINCOLN COUNTY— | | |
| Magnolia, Telford 5, sw se se 7-14n-4e | 250 | 5014 |
| LOGAN COUNTY— | | |
| Stanolind-Amerada, Terhune 1, se se nw 20-18n-4w 10 M | 1032 | 6130 |
| MUSKOGEE COUNTY— | | |
| Feenburg, Cherry 15, se nw sw 17-14n-16e | 5 | 1708 |
| Foltz, Bartlett 4, sw se nw 16-14n-17e (otd 1378) | 5 | 1924 |
| OKFUSKEE COUNTY— | | |
| Chapman, Cudjo 8, nw sw se 25-10n-8e | 889 | 1751 |
| Chapman, Williams 1, se se sw 25-10n-8e | 334 | 1755 |
| Arkansas Royalty, Palmer 3, nw se ne 19-10n-9e | 20 | 1810 |
| Chapman & Atlantic, Natchee 2, sw nw se 19-10n-9e | 27 | 1798 |
| Natchee 5, nw ne se 19-10n-9e | * | 46 |
| Chapman, Peter King "B" 5, nw nw sw 30-10n-9e | 428 | 1760 |
| OKLAHOMA COUNTY— | | |
| Continental, Young 13, sw sw nw 31-14n-3w 6 M | 4155 | 6701 |
| OKMULGEE COUNTY— | | |
| Hawkins, Smith 4, cnl ne sw 19-13n-13e | 1/5 M | 1626 |
| Hazlett, Ashley 1-A, sw se nw 29-14n-14e | 5 | 1270 |
| Reliance Oil, Cowan 9, ne se sw 26-16n-11e | 30 | 1848 |
| OSAGE COUNTY— | | |
| Chavalier & Simon, Osage 1, se se se 24-23n-9e | * | 2309 |
| Barnsdall, 12, cel e½ sw 17-23n-12e (pb 1590) | 3 | 1650 |
| Continental & Gulf, 5, sw sw nw 22-24n-7e 3 M | 15 | 2572 |
| Lewis Prod., 10, nw ne ne 28-24n-7e | 40 | 2741 |
| Peters Pet., 7, cs¼ s½ nw 32-24n-9e (pb 1625) | 10 | 2215 |
| Carter Oil, 7, se sw ne 3-25n-6e 7 M | 1992 | 2797 |
| Utilities Prod., 24, nw ne sw 1-27n-7e | 2½M | 1523 |
| PONTOTOC COUNTY— | | |
| Continental, McCarty 2, ne se nw 12-1n-7e, (pb 4734) | 3172 | 4745 |
| Mid-Continent, McKay 3, sw sw sw 20-2n-7e (otd 3904) (pb 4007) | 40 | 4225 |
| Blackstock, Danials 6, ne se sw 21-2n-7e, 2 3/4 M | 5352 | 3851 |
| Magnolia, Norris 7, nw sw se 21-2n-7e, 2 M | 4032 | 3846 |
| Blackstock, Kirby 1-A, sw ne se 22-2n-7e 1¾ M | 3744 | 3946 |
| Magnolia, Metropolitan Life 26, nw sw se 22-2n-7e 2¾ M | 1446 | 4315 |
| Blackstock, Moody 4-A, se sw sw 23-2n-7e | 1399 | 4360 |
| Moore, Deaner 1, nw sw se 23-2n-7e. | 144 | 4430 |
| Simpson, Westheimer 3-A, se nw nw 26-2n-7e | 5016 | 3745 |
| Carter Oil, Smith 9, nw nw sw 28-2n-7e, 2¾ M | 183 | 3534 |
| Fleetborn & Simpson, Wooley 5-A, ne ne se 28-2n-7e, 2M | 3218 | 3514 |
| Magnolia, Burris "B" 9, sw se ne 28-2n-7e 3 M | 4320 | 3552 |
| Benedum & Trees, Beeker Burk 2, nw nw nw 35-5n-5e | lcn | abd. |
| POTTAWATOMIE COUNTY— | | |
| Riverland O & G et al, Goefelt 1, nw se se 12-6n-6e (pb 2306) | * | 2903 |
| SEMINOLE COUNTY— | | |
| Malerance & Shelton, Shelley 1, se sw sw 29-7n-6e (pb 3030) | 80 | 4723 |
| Winona Oil, Wolf 1, sw sw se 18-7n-8e (otd 3085) 9½ M | 50 | 3112 |
| Magnolia, B. Reed 3, nw ne nw 34-8n-8e (pb 4036) | 183 | 4208 |
| Barnsdall & Atlantic, Sango 6-A, nw sw nw 1-9n-5e | 288 | 4265 |
| Carter Oil, Sanford 1, nw nw se 16-9n-6e | 80 | 3587 |
| Exchange Drl., Mills 3, ne ne se 19-9n-7e | * | 2418 |
| Kiester, Scroggins 1, nw ne nw 3-6n-6e | * | 920 |
| STEPHENS COUNTY— | | |
| Carter & Ring, Arn 10, nw nw ne 26-1s-5w | 6 | 610 |
| Duncan, Cummings 1, se se nw 27-1s-8w | * | 1502 |
| McCallister, Trout 2, sw nw sw 1-2s-8w (pb 1470) | 15 | 1492 |
| TULSA COUNTY— | | |
| Bu-vi-bar Oil, Thatcher 2, se se ne 27-18n-13e | * | 673 |

*Failures; †Junked; ¶Million cu. ft. gas.

# 58 NEW WELLS

**Tulsa.**—Oklahoma operators last week completed 58 wells. Forty-five wells were completed for a combined initial production of 52,232 barrels of crude. Two wells were completed for a total open flow of 2,700,000 cubic feet of gas. Ten tests resulted in failures and there was one abandoned location.

The state had 63 new locations for the week, Seminole County leading with 9 and Oklahoma and Pontotoc counties getting eight reports each. Seven reports were from Okfuskee County and five each from Creek and Osage counties. Three reports each were received by Carter, Muskogee and Stephens counties, and two each in Hughes and Payne counties. A single report of a new location was received from each of the following: Atoka, Choctaw, Comanche, Garvin, Grady, Kay, Marshall and Noble counties.

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**Wichita.**—Kansas kept up its high average of new locations, reporting 59 starts the past week. Reno, Rice and Russell counties had eight reports each and Ellis County, seven. Four reports were in Barton and Sumner counties, three each in Chautauqua and Rush counties, and two each in Greenwood, McPherson, Rooks and Sumner counties. Butler, Cowley, Elk, Harvey, Lane and Trego counties had one report each.

# MANY GOOD WELLS

## Kansas completions have big initial production

WEEKLY STAFF REPORT

**Wichita.**—Good wells continued to be completed in Kansas, and one recent completion has been designated as a new field opener, another test may open a new Kansas City lime producing area.

C. L. Price et al's Deutsch 1, NWc NE 16-16s-13w, which pumped 939 barrels of oil on a 20-hour test from the Siliceous lime at 3389 feet, has been designated as the discovery producer in the Susank pool of Barton County. The announcement was made December 21 by T. A. Morgan, director of the conservation division of the Kansas corporation commission.

A new Kansas City lime area may be opened in McPherson County as Frank Wahn et al's Lindstrom 1, NEc NW 9-19s-2w, one-half mile west of the north end of the Decker pool, topped that formation high at 2327 feet, and was underreaming casing down to the total depth before drilling into the formation. Lindstrom 1 found the Kansas City lime some 13 feet higher than a test one-half mile to the east.

A new wildcat test is K. C. Bates et al's Bates-Nimrocks 1, C NW NE 16-16s-28w, some 15 miles northeast of Dighton in Lane County. The test, the first in the county in several years, is at the apex of a triangle formed by the Shallow Water pool of Scott County and the Aldrich pool of Ness County to the southeast.

Joy Aylward et al's Schroeder 1, SW NW SE 23-18s-16w, was completed as a big combination oil and gas producer in the Otis South pool of Rush County. The well flowed 1292 barrels of oil on a potential test from the Reagan sand at 3538 feet, and had an open flow of 42,000,000 cubic feet of gas. The new producer is about a quarter of a mile from Morgan & Flynn's Koriel 1-B, completed some time ago for 2133 barrels of oil, the biggest well in the area. Much activity is reported from the area at the present time, with numerous tests to be started almost immediately.

Ohio Oil Company has a new producer in the Graber pool of McPherson County. It is Decker 8, NE SE SE 20-21s-1w, which at last reports, had a hole full of oil, coming from the Hunton lime at 3310 feet. The hole will be deepened several feet before being acidized and the potential taken.

Several wells scattered throughout the more firmly established pools in the state reported potentials. Skelly Oil Company's Bloomer 5, in the Bloomer pool of Barton County, pumped 2750 barrels of oil in 24 hours from the Siliceous lime at 3273 feet. Haynes Brothers' Mueller 2, in the Haven pool of Reno County, has been completed for 594 barrels of oil from the chat at 3384 feet. Derby Oil Company's Hauschild 4, in the Hauschild pool of Rice County, made 2661 barrels of oil on a 24-hour test from the conglomerate at 3405 feet. Continental Oil Company's Hetzke 3-A, in the Graber pool of Mc-

Pherson County, pumped 1158 barrels of oil from the Hunton lime at 3329 feet, and Shell Petroleum Corporation's Michaelis 3, in the Trapp pool of Russell County, pumped 2342 barrels of oil from the Siliceous lime at 3250 feet.

Operators were keeping a watchful eye on Empire Oil & Refining Company's Ham 1, SW NW NW 24-8s-19w, southeast of production in the Webster pool of Rooks County. The well topped conglomerate at 3456 feet and went into the Siliceous lime at 3522 feet. A bailer of water was encountered from 3545 to 3549 feet, and at last reports, the well was drilling ahead below 3575 feet.

Ohio Oil Company's Wilcox 1, NWc SW 18-19s-9w, an east offset to the discovery producer in the Doran pool of Rice County, pumped 1144 barrels of oil from the Siliceous lime at 3283 feet after being acidized. The discovery well was completed for 1366 barrels of oil. It was drilled by John Stark.

Indian Territory Illuminating Oil Company's Peter 1, NWc 24-20s-11w, in the Peter pool of Barton County, had a hole full of oil from the Siliceous lime at 3258 feet. It is the farthest southeast producer in the pool.

Magnolia Petroleum Company has another new producer in the Hilger pool of Reno County. It is Harris 3, NWc 9-26s-4w, and appears to be good for 2000 barrels of oil daily from the Viola lime at approximately 4050 feet. In production tests, the well made about 85 barrels of oil an hour.

Ohio Oil Company's Harbaugh 3, NE SE NW 25-14s-15w, in the Harbaugh pool of Russell County, topped the Oswald lime at 2900 feet, and filled 500 feet with oil in seven hours. Production was coming from between 2922 and 2927 feet.

John H. Tatlock et al's John Berscheidt 2-B, in the Rice County sector of the Isern pool of that county, was completed for 2019 barrels of oil from the Siliceous lime at 3278 feet.

E. J. Carey has staked location for Stange 1, NW SW NW 16-21s-7w, one-half mile east of Joe Aylward et al's Johnson 1, recently completed wildcat strike midway between the Hauschild and Saxman pools of Rice County.

Shell Petroleum Corporation staked location for Balzar-Siemens 1, CWL NE 8-22s-3w, north of the Burrton pool of Reno County. The test is located on the property line between the 80-acre strips of land owned by Balzar and Siemens, and will be drilled with rotary.

# KANSAS

## Completions

| Company, Well and Location | Init. Prod. Bbls. | Depth |
|---|---|---|
| BARTON COUNTY— | | |
| Hilligoss et al, Isern 3, ne ne ne 12-20s-11w | 1721 | 3301 |
| Magnolia, Roetzel 1, nw nw ne 24-20s-11w | 1658 | 3273 |
| BUTLER COUNTY— | | |
| Polhamus et al, Semisch 4, sw ne ne 5-28s-7e | 100 | 2777 |
| CHAUTAUQUA COUNTY— | | |
| Griffin & Bell, Glasscock 2, nw nw se 1-32s-10e | 50 | 2282 |
| Oliver 13, cn½ sw 1-32s-10e | * | 2001 |
| Oliver 14, cs½ nw 1-32s-10e | 2300 | 2309 |
| Julian 3, cne ne 2-32s-10e (otd 2004) | 1000 | 2299 |
| Skiles, Landon & Floyd 1, nw nw se 23-32s-10e | 10 | 1966 |
| COFFEY COUNTY— | | |
| Ward McGinnis, Mentzer 1, cnw sw 32-22s-15e | * | 1640 |
| Selby O & G, Scott 2, sw nw nw 13-23s-14e | 97 | 1621 |
| Alexander & Bell, Demler 1, nw nw ne 7-23s-15e | 35 | 1630 |
| ELK COUNTY— | | |
| Diller O & G, Key "B" 1, sw sw nw 25-31s-10e | 1000 | 2255 |
| ELLIS COUNTY— | | |
| Empire, Bemis 2, se ne se 21-11s-17w | 2270 | 3441 |
| Ryan Consolidated, Bemis "A" 3, ne nw nw 22-11s-17w | 2722 | 3415 |
| Beardmore et al, Weiland 7, nw ne se 36-12n-16w | lcn | abd. |
| Davis et al, Edwards 5, nw nw se 34-17s-8w | 1792 | 3261 |
| ELLSWORTH COUNTY— | | |
| Bradley Oil, Nienke 1, ne nw nw 13-17s-9w (otd 2214) | 236 | 3051 |
| HARVEY COUNTY— | | |
| Bovaird Supply, Dyckes 3, ne ne sw 8-22s-3w | 650 | 3535 |
| Empire, Talbot 1, cw½ sw nw 1-23s-2w | 9591 | 2993 |
| Western Kansas O & R, Hertzler 1, cnw nw 13-23s-2w | 2991 | 2978 |
| McPHERSON COUNTY— | | |
| Dickey & Gulf, Goering 4, se ne se 17-21s-1w | 2429 | 3340 |
| Continental et al, Goering 3, sw se sw 29-21s-1w | 692 | 3306 |
| RENO COUNTY— | | |
| Miller et al, Detter 1, ne se nw 28-22s-7w | * | 3924 |
| Barnsdall, Sabin "B" 6, se se ne 11-23s-4w (pb 3445) 6½ M | 215 | 3623 |
| Sinclair Prairie, Seedle 5, se ne ne 17-24s-4w 11M | 1178 | 3368 |
| Shell, Mauck 1-A, sw nw ne 14-26s-9w | * | 2105 |
| Empire, Mauck 2, sw se nw 15-26s 9w | 5980 | 4161 |
| Ohio Oil, Lawson 1, se ne nw 15-26s-9w | 6409 | 4149 |
| RICE COUNTY— | | |
| Continental et al, Ainsworth 5, se se ne 25-18s-8w | 947 | 3150 |
| Lebow et al, Callis 4, ne nw se 16-19s-9w | * | 3260 |
| Empire, Weiland 1, nw nw ne 5-20s-9w | 423 | 3237 |
| Ramsey Pet. Hilton "A" 5, nw se sw 6-20s-9w | * | 3354 |
| Tatlock, Drew 2, ne nw sw 5-20s-10w | 1458 | 3316 |
| Gulf, Schmidt 1, ne se se 6-20s-10w. | 751 | 3342 |
| Tatlock, Berscheidt 16, se se nw 6-20s-10w | 1080 | 3299 |
| Berscheidt "A" 1, sw sw sw 6-20s-10w | 1486 | 3274 |
| Berscheidt "B" 1, ne nw sw 6-20s-10w | 1072 | 3274 |
| Douglas et al, Hughes 1, se se se 6-21s-7w | 1618 | 3347 |
| RUSH COUNTY— | | |
| Morgan & Flynn, Brack 1, cnw 24-18s-16w | 3¾ M | 3480 |
| RUSSELL COUNTY— | | |
| Shields, Miller 1, sw se se 31-14s-13w | 635 | 2924 |
| Saco Oil, Guerney 1, se sw sw 23-14s-14w | 908 | 2790 |
| Skelly, Dumler 1, sw sw ne 1-14s-15w | 1054 | 2772 |
| Bridgeport, Witt 5, se ne sw 3-14s-15w | 468 | 3180 |
| Bridgeport, Polcyn 4, sw nw ne 10-14s-15w (pb 3288) | 420 | 3299 |
| Shaffer, Polcyn 6, nw se ne 10-14s-15w | 1574 | 3279 |
| Hartman & Blair, Harbaugh 1, ne ne sw 25-14s-15w | 891 | 3152 |
| Coralena Oil, C. Sellens 1, sw sw nw 29-15s-13w | 2438 | 3270 |
| SEDGWICK COUNTY— | | |
| Wallace et al, Scheer 1, sw sw sw 22-27s-3w | * | 4285 |
| SEWARD COUNTY— | | |
| Helmerich & Payne, Hyde 1, csw 14-31s-34w | * | 2850 |
| STAFFORD COUNTY— | | |
| Empire, Schneider 2, sw nw se 3-21s-11w | * | 3351 |
| STEVENS COUNTY— | | |
| United Prod, Christopher 4, cwl sw 2-33s-39w | 6 M | 2863 |
| Stevens County O & G, Finch 1, csw 34-34s-38w | 6½ M | 2835 |
| SUMNER COUNTY— | | |
| Stelbar Oil, Earker 15, sw se sw 33-31s-1w | 1530 | 3689 |
| Buffington, Buffington 1, cnw se 10-35s-2e | 1 M | 1551 |
| WOODSON COUNTY— | | |
| Henderson & Holden, Vostraz 3, 23-23s-14e | 45 | 1625 |
| Dewyer et al, Wolfe 1, cne sw 9-24s-14e | * | 1719 |

*Failures; †Junked; ¶Million cu. ft. gas.

# GET MORE OUTLET

## Monument area benefits by line construction

WEEKLY STAFF REPORT

**Hobbs, N. M.**—Transportation and market relief for producers in the Monument field, which has been subjected to extra production restrictions for more than three months because of its two trunk line outlets limiting runs to a total of 12,000 barrels daily, will be provided shortly by Shell Pipe Line Corporation. A six-inch extension line is being built by this concern from its booster station in the Eunice field to the heart of the Monument field. This new market outlet will be available as soon as the company completes construction work on 72-mile 10-inch carrier, paralleling two 6-inch lines between Wink and McCamey, Texas.

Readjustments of proration allowables of all Lea County areas served by majors will take place when the Monument field is given its third pipe line connection. This field was cut back 4681 barrels daily last September 16 to coincide with the reduced nominations. Field allowables has remained pegged at 12,000 barrels daily, although total wells have increased from 191 to 248, and the average yield per well has been periodically lowered from 88.7 barrels to 48.39 barrels daily. Market outlet lost by Monument was diverted by the New Mexico Oil Conservation Commission to other Lea County areas, thus enabling the latter to average close to 100 barrels daily per well in spite of numerous completions. Effective December 16 Lea County areas that are prorated on a flat well basis, excluding Monument, were assigned a quota of 99 barrels daily per well. When Monument field regains its proportionate share of the market all other areas will be cut back, unless state authorities elect to boost the total allowable from 86,200 barrels to about 100,000 barrels daily. Bureau of Mines has recommended a top allowable of 79,800 barrels for the state beginning January 1.

### Henry to Revive

The Henry area, consisting of four marginal oil wells and two plugged-back gassers on opposite sides of the oil properties, all situated on a direct production trend between the Cooper and Eunice dolomite lime fields, is in line for a revival of activity after being dormant since 1930. Continental Oil Company et al's Ira C. Farney 1-A-5, C SW SE 5-23s-36e, two miles north by west of the nearest oil producer, had a natural flow of 38 barrels per hour through tubing from dolomite lime at 3704-3760 feet. Base of salt was logged at 3260 feet, and top of Yates sand at 3420 feet, with an elevation of 3457 feet. The hole is bottomed at 303 feet sub-sea. Seven-inch pipe was cemented at 3694 feet. Federal permit, held on an equal basis by Continental Oil Company, The California Company, Atlantic Refin-

ing Company and Stanolind Oil & Gas Company supports this project. Texas Pacific Coal & Oil Company, Fort Worth, discoverer of the Henry area, is the largest single lease owner in the area.

Monument field recorded a prolific completion the past week when Anderson-Prichard Production Corporation's H. M. Britt-Conoco 5-A-7, C NE SW 7-20s-37e, flowed 110 barrels of oil in 15 minutes natural through ¾-inch opening on 7-inch casing with 3-inch drill pipe suspended in the hole. The back pressure on casing was 400 pounds. Another gauge through casing rated the flow at 650 barrels of oil per hour, with gas volume estimated at 7,500,000 feet daily. It is producing from lime at 3797-3875 feet, with an elevation of 3557 feet. The company's south offset was in process of completion late last week. Amerada Petroleum Corporation added two producers and two new operations. This company's State 6-T, C NW NE 20-19s-37e, northeast outpost, flowed 124 barrels oil in 17 hours through ½-inch choke after using acid twice at 4000 feet, or 317 feet sub-sea, and Andrews 5, C SW NW 12-20s-36e, flowed 49 barrels oil in 17 hours on 13/64-inch choke after two 2000-gallon acid treatments at 3890 feet. Operations have been started on W. P. Byrd 2, C SW NE 12-20s-36e, and D. F. Larsen 2, C NE NW 32-19s-37e. Shell Petroleum Corporation is starting up on State 1-E, C NE NW 13-20s-36e, which will result in a number of progressive offsets.

Besides the three new locations assigned the Monument field, one each was credited to the Eunice, North Eunice and Maljamar fields. Maljamar Oil & Gas Corporation is seeking its ninth producer in the Marjamar field, western Lea County, in starting work on Baish 8, C SW NW 21-17s-32e. This company's Baish 7, C SE NW 21-17s-32e, is showing for a 75-barrel well after 10-quart nitro shot in upper sandy-lime pay at 2350-2355 feet. Continental Oil Company is rigging up rotary to drill Mary E. Wantz 1, C SW SW 21-21s-37e, offsetting Getty Oil Company's producer in the North Eunice sandy-lime area. Repollo Oil Company's A. M. York 1, SE SE NE 20-21s-37e, situated one-half mile to the north, was flowing by heads while drilling in lime at 3795 feet, with an elevation of 3498 feet.

Two strings of tools lost in Jim Brown and Reynolds' Parcell-Conoco 1, C NW SE 8-21s-38e, eastern Lea County wildcat, have aggravated the fishing job that occurred when a heavy flow of dry gas appeared at 3160 feet. It is seeking production from the Bowers sandy-lime zone, which has oil possibilities in the Hobbs field, as well as the dolomite lime horizon. Rushwold Oil Company and Continental Oil Company's E. E. Carter 1, C NW NE 30-20s-39e, located 3¾ miles to the north, has the same objective, and was drilling at 3127 feet, according to late reports, with a slightly better structural position. Carter 1 logged base of salt at 2805 feet, with an elevation of 3559 feet.

Continental Oil Company and The California Company's J. S. Eaves 1-B-30, C SW NE 30-26s-37e, South Jal lime area, flowed 30 barrels of 30 gravity oil per hour through open tubing after using 1000 gallons of acid in saturated lime at 3197-3213 feet.

## NEW MEXICO

### Completions

| Company, Well and Location | Init. Prod. Bbls. | Depth |
|---|---|---|
| LEA COUNTY (Eunice Field)— | | |
| Atlantic Ref. Co., State-Catron 4-L, Lot 4, 6-21s-36e | 150 | 3850 |
| Humble, J. D. Knox 7, c sw ne 10-21s-36e | 275 | 3890 |
| LEA COUNTY (North Jal Field)— | | |
| Conoco-California Co., Sholes 1-A-24, c se se 24-25s-37e | ¶23 | 3396 |
| LEA COUNTY (South Jal Field)— | | |
| Conoco-California Co., J. S. Eaves 1-B-30, c sw ne 30-26s-37e | 720 | 3213 |
| LEA COUNTY (Monument Field)— | | |
| Amerada Pet. Corp., H. F. Andrews 5, c sw nw 12-20s-36e | 250 | 3890 |
| State 6-T, c nw ne 20-19s-27e | 500 | 4000 |
| Anderson-Prichard Prod. Corp., Britt-Conoco 5-A-7, c ne sw 7-20s-37e. | 15,600 | 3875 |
| Gulf Oil Corp., D. A. Williams 3, c se se 29-19s-37e | 730 | 3943 |
| Repollo Oil Co., W. C. Roach 2, nw ne nw 21-20s-37e | 3000 | 3845 |

*Failures; †Junked; ¶Million cu. ft. gas.

## FITZGERALD ELECTED

**Midland.** — James Fitzgerald, West Texas district geologist for Skelly Oil Company, was elected president of the West Texas Geological Society at annual meeting held at Midland on December 19. M. B. Arick, geologist for Humble Oil & Refining Company, and John T. Hills, geologist for Amerada Petroleum Corporation, were elected vice president and secretary treasurer, respectively.

## TEXAS STARTS OFF

**Austin.** — The Railroad Commission approved last week permits for drilling 184 new wells in Texas, 244 less than were allowed the week before.

Southwest Texas reported 45 new locations, with 21 in Duval County. There were 39 permits for Gulf Coast wells, including 15 in Nueces County.

West Texas listed 43 locations, with 14 in Winkler and 12 in Ward County. There were 11 permits from the Panhandle. West Central Texas reported 23 permits, with 14 in Shackleford County, and there were 7 from North Texas district.

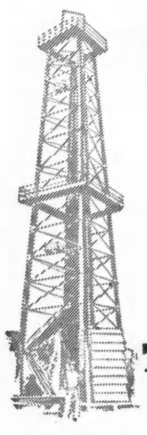
East Central Texas reports 15 locations, but only 1 permit was granted for a well in the East Texas field, a well to be drilled in Smith County.

## WEST TEXAS

### Completions

| Company, Well and Location | Init. Prod. Bbls. | Depth |
|---|---|---|
| ANDREWS COUNTY (Means Field)— | | |
| Humble O&R Co., J. S. Means 11 | ¶4¼ & 743 | 4532 |
| CRANE COUNTY (Gulf-McElroy Field)— | | |
| Gulf, J. T. McElroy 142 | 454 | 2936 |
| CRANE COUNTY (McCamey Field)— | | |
| Homestead O&G Co., E. S. Hughes 2 | 409 | 2115 |
| CRANE COUNTY (Sand Hills Field)— | | |
| Humble, J. B. Tubb 5 | 6350 | 4420 |
| ECTOR COUNTY (Goldsmith Field)— | | |
| Humble, W. F. Cowden 1 | 917 | 4278 |
| JONES COUNTY— | | |
| Thos. D. Humphrey et al, Guitar 1 | 360 | 2014 |
| N. H. Martin & Son, H. Dorsey 3-D | 112 | 2155 |
| Ungren & Frazier, H. Dorsey 1-D.. | 560 | 2231 |
| PECOS COUNTY (Pecos Valley Field)— | | |
| Union Oil & Mining Co., J. W. Potts 2 | 120 | 1732 |
| PECOS COUNTY (Torborg Field)— | | |
| Stanolind, J. H. Tippett 16-A | 14 | 357 |
| PECOS COUNTY (Yates Field)— | | |
| Ohio Oil Co., I. G. Yates 13-D | 96,624 | 1327 |
| UPTON COUNTY (McCamey Field)— | | |
| Cardinal Oil Co., Cordova-Union 1.. | 240 | 2305 |
| Jerome McLester et al, Hughes-Pure 2 | 402 | 2735 |
| Stanolind, A. S. Burleson 42 | 478 | 2040 |
| G. M. Smith & Cravens, A. Reese-Conoco 7 | 907 | 2444 |
| WARD COUNTY— | | |
| Abell Bros., R. O. Potts-Humble 6 | 548 | 2335 |
| Atlantic Ref. Co.-California Co., University-Wickett 1-B | 959 | 2740 |
| Black & Hedrick (was Provine-O'Quinn), M. E. Snelson 1 | 48 | 2187 |
| California Co., B. D. Durgin 43 | 294 | 2550 |
| Eastland Oil Co., Hathaway 2 | 4098 | 2638 |
| F. H. E. Oil Co., J. W. Maxwell 5-B | 468 | 2380 |
| Gulf Oil Corp., Hutchings 61 | 627 | 2762 |
| A. E. Lynch et al, Bergman 1 | 155 | 2277 |
| Prince Bros. Drl. Co., C. L. Monroe-California 1 | † | 2856 |
| Richardson Oils, Inc., J. H. Hathaway 11 | 5782 | 2594 |
| J. H. Hathaway 14 | 699 | 2647 |
| Skelly Oil Co., J. H. Hathaway 3.. | 7100 | 2596 |
| WINKLER COUNTY (Halley Field)— | | |
| J. M. Weaver, Hoffman & Page Co., Inc., S. M. Halley 2 | 136 | 2901 |
| WINKLER COUNTY (Henderson Field)— | | |
| Champlin & Bass, Inc., J. W. Hess 3 | 4000 | 3080 |
| WINKLER COUNTY (Sayre Field)— | | |
| Mid-Continent Pet. Corp., Walton 9. | 935 | 2960 |
| Navarro Oil Co., Roy Clapp 2 | 500 | 3159 |
| Shell, Ida Hendrick 3-K | 336 | 3050 |

*Failures; †Junked; ¶Million cu. ft. gas.

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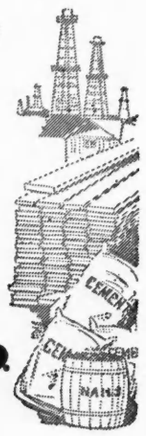

# *Promising Wildcat*

## ANDREWS COUNTY WELL WILL TEST AT 4300 FEET

WEEKLY STAFF REPORT

**Midland, Texas.**—Increased production allowables assigned active areas in West Texas effective January 1 are generally nullified in so far as adding to the earning power of existing wells since the volume of new completions offset enlarged quotas given individual fields. Supported by a brisk demand for all grades of West Texas crudes, operators contemplate more aggressive drilling programs throughout the district during the fore part of 1937 and are relying upon higher price postings and periodical boosts in field allowables.

First wildcat strike in West Texas for Sinclair Prairie Oil Company looked promising late last week when Emma Cowden 1, SEc Section 12, Block 44, T&P Ry. Survey, T-1-N, located on south line of Andrews County and 2½ miles northwest of two Ector County producers in a deeper lime section, prepared to test through tubing at 4300 feet, or 1165 feet sub-sea. Laboratory samples showed oil stain in lime at 4070-4080 feet and at 4120-4130 feet, but the last 54 feet of hole registered poor saturation alothough the lime was soft. Top of brown lime was logged at 3810 feet. It is 2½ miles from Sun Oil Company's O. B. Holt 1, which opened a new pool, else extended production in the North Cowden field about 2½ miles to the northwest with a small well in 1935. A second test to the northeast likewise proved to be small calibre.

Devonian Oil Company's Clarence Scharbauer 1, one mile east of nearest production in the Goldsmith field, Ector County, encountered a high water table in showing a small amount of sulphur water at 4225 feet, while carrying 1500 feet of oil in hole from lime pay topped at 4177 feet. It has been plugged back to 4214 feet, but production test will be deferred until after the holidays. Texas Pacific Coal & Oil Company's Scharbauer 1, NEc Section 31, an intermediate test for the original Goldsmith field and its northwest extension area, provided a surprise development in registering a natural flow of 2½ barrels of oil per hour shortly after cement plugs were drilled from 7-inch pipe and the hole washed down. This well is bottomed at 4165 feet, and will be deepened when storage is complete. Humble Oil & Refining Company's W. F. Cowden 1, C NW SW Section 30, also in the intermediate area, flowed 917 barrels initial after using acid twice following nitro shot in lime zone at 4257-4278 feet. The hole is bottomed at 1083 feet below sea level. Heavy rotary fluid used in completing this well as a precaution against a blowout is believed to have held back the natural flow. Gulf Oil Corporation's Goldsmith 10, an inside location for the main field, gauged 615 barrels of 37.5 gravity oil in 13 hours after nitro shot in lime at 4100-4200 feet.

### Judkins Extended

Shell Petroleum Corporation's advanced production in the Judkins field more than one-half mile to the southeast when its University 1, C SW SE Section 3, Block 35, flowed 35 barrels oil in 2 hours when tested at 3660 feet. Top of saturated lime was logged at 3580 feet. Operations were halted to erect storage.

The Estes dual-pay area in the north portion of the Grand Falls district, Ward County, is about to stage an aggressive drilling program now that prolific production is proved over a wide area from the 2600-foot and 2900-foot sandy-lime zones. West extensions were attained lately when The California Company's I. B. McFarland 1-37, east corner of 250-acre lease, Section 37, Block 34, H&TC Ry Survey, and Merry Bros. & Perini, Inc's Hathaway 1, responded to nitro shots in the upper pay with potential yields of about 3000 barrels each. Tide Water Associated Oil Company has staked five new locations on its W. D. Johnson 640-acre lease, adjoining to the south. The discovery well of the deeper pay zone was drilled in the most southerly east corner of the latter lease by Simms Oil Company. There are now eight deep oil wells, and several companies are drilling twin locations to the shallow wells. All operators are carrying out a spacing program of one well to 10 acres. Available geophysical and subsurface data indicates that the producing area will extend north across Gulf Oil Corporation's large Estes leasehold and connect with the Gulf-O'Brien-Hutchings sandy-lime area.

### Water in Henderson Lime

First serious water encroachment experienced by the Henderson lime area, Winkler County, developed with the completion of Humble Oil & Refining Company's J. C. Walton 8-C, NWc SW NW Section 34, north outpost location, in regular dolomite at 3032-3054 feet. The well is bottomed at 172 feet sub-sea, supposedly a safe distance above the water table. Potential gauge through ⅞-inch tubing

## BIG PRODUCTION

**Wichita Falls, Texas.**—The Strawn sandy-lime zone, deepest oil producing formation in Wichita County, proved capable of prolific yield early last week when Deep Oil Development Company's Munger Farm Company 6 gauged 120 barrels of high gravity oil in 15 minutes through open casing at 3781-3790 feet. This unusually large natural flow caught the field crew unprepared, and the well had to be shut in for storage. Top of saturated lime was logged at 3745 feet, with 6⅝-inch pipe cemented at 3701 feet. The well is located on the west line of Block 30, KWVFL Survey, near other deep producers in the old K-M-A shallow field. Operations have been started on Munger 7, a south offset. Previous completions in the Strawn have been somewhat small after using nitro and acid, but are considered profitable as pumpers.

## NORTH TEXAS Completions

| Company, Well and Location | Init. Prod. Bbls. | Depth |
|---|---|---|
| ARCHER COUNTY— | | |
| L. T. Burns et al, J. H. Turbeville 2-L, sec 139 | * | 1490 |
| M. L. White 96, sec 34 | * | 2475 |
| Consolidated Oil Co. et al, L. F. Wilson 1, sec 71 | * | 1429 |
| Maxson & Panhandle Ref. Co., F. C. Green 43-B | 32 | 1132 |
| F. C. Green 44-B | 35 | 1128 |
| John O'Donohoe & Gibson Dev. Co., O'Donohoe 1, sec 92 | * | 1616 |
| CLAY COUNTY— | | |
| Metzner & Burns, Thornberry 15, blk 5 | 3 | 360 |
| COOKE COUNTY— | | |
| Big Indian Oil & Dev. Co., T. E. McFadden 1 | * | 2096 |
| Denver Prod. & Ref. Co., Ed. Wilson 11 | 189 | 1985 |
| F. W. Merrick, Inc., et al, Mrs. L. Jones 1 | * | 3318 |
| Stuck et al, T. D. Elkins 1 | * | 2495 |
| United Producers Co., R. W. Trew 7 | 600 | 1616 |
| Vindicator Oil Co., Walterscheid 10 | 35 | 795 |
| GRAYSON COUNTY— | | |
| P. A. Shaner et al, W. M. Blair 1 | * | 2703 |
| MONTAGUE COUNTY— | | |
| H. Bost et al, T. B. Cunningham 1 | * | 256 |
| Conoco, N. J. Howard 31 | 34 | 1235 |
| T. P. Frost et al, J. E. Johnson 1 | * | 3023 |
| L. C. Heydrick et al, Cliff Dowd 1 | * | 3525 |
| Hollandsworth Drl. Co., Mrs. S. F. Loy 1 | * | 1847 |
| The Texas Co., Cunningham 13-A | 42 | 924 |
| Cunningham 12-B | 32 | 948 |
| THROCKMORTON COUNTY— | | |
| Gibson & Jennings, Polk County S. L. 1 | * | 1511 |
| WICHITA COUNTY— | | |
| C. B. Bailley et al, Munger 34, blk 30 | 5 | 1095 |
| L. T. Burns et al, K. Goetze 2 | * | 1363 |
| Horwitz & Odom, L. C. Denny 3 | 5 | 492 |
| T. F. Hunter et al, Waggoner Bros. 1-G, sec 8 | * | 1796 |
| Pois & Schulz, Foster-Allen 2-B, sec 1 | 50 | 1272 |
| Waggoner Ref. Co., Waggoner Est. 12-AA, sec 13 | 83 | 1985 |
| WILBARGER COUNTY— | | |
| Staley & Wynne, Waggoner Est. 5-R, sec 26 | 20 | 2511 |
| YOUNG COUNTY— | | |
| Gilmore & Bohner, G. P. Stewart 1-A, blk 7 | * | 588 |
| N. D. Goldsmith et al, O. B. Stowe 4, sec 2 | * | 1106 |
| G. F. Grininger et al, Prideaux 6 | 10 | 769 |
| Hamilton Pet. Co., J. K. Jeffery 20, sec 53 | * | 899 |
| Thos. A. Jirk et al, R. J. McCloud 5, sec 1395 | * | 920 |
| J. J. Moran et al, W. B. Howard 15, sec 3401 | 186 | 912 |
| Owenwood Pool, G. P. Stewart 2-A | * | 892 |
| J. S. Page et al, M. M. Burris 1, sec 1365 | * | 766 |
| Panhandle Ref. Co., Prideaux 15 | 12 | 777 |
| Solo Oil Co., Deitrich 6 | 25 | 1112 |
| O. G. Turner et al, R. E. Senkel 1, sec 1917 | * | 650 |
| Whitehill Oil Corp., L. F. Gragg 13 | * | 845 |
| D. L. Wolf et al, M. Bernhardt 1, sec 1474 | * | 911 |

*Failures; †Junked; ¶Million cu. ft. gas.

choke amounted to 536 barrels net oil, plus 43 percent bs&w. An attempt is being made to ascertain if it is bottom hole water. Champlin & Bass, Inc., and Atlantic Refining Company's J. W. Hess 3, NEc Section 4, gauged 1600 barrels initial through open tubing from pay at 3080 feet.

Production from the Delaware lime zone, a potential source of production for a vast area lying west of the Permian Basin, is the objective of a 5000-foot wildcat test being started by Humble Oil & Refining Company on the Mrs. M. E. Gray 960-acre lease, near C NE SW Section 94, Block 11, GH&SA Ry Survey, western corner of Pecos County. Obligation to drill was assumed about mid-1935 when additional acreage was leased to enlarge an old block. The Delaware may also be explored in a new wildcat to be drilled in Culberson County by Grisham-Hunter Corporation, Abilene. Equipment is enroute to drill on fee acreage near SWc Section 22, Block 54, PSL Survey.

Extended production test given Ray Albaugh et al's John Robinson 1, Dawson County's first oil well, reveals a higher pumping yield than originally expected without the aid of nitro shot or acid in lime at 5038 feet. The well averaged 4½ barrels of pipe line oil per hour on last 34-hour gauge, then shut down. It has been in process of completion since early last September.

## NEAR DECISION

### Grayson Ordovician test drilling Stringtown shale

**Dallas, Texas.**—Search for production in the Ordovician lime horizon underlying the Preston Anticline in Grayson County is now approaching a decisive stage at Olson Drilling Company et al's D. R. Utiger 1, located 5 miles northwest of Denison, with drilling under way in Stringtown shale at 2024 feet. First probable producing horizon is anticipated from sand beds in the Simpson series immediately below

**The Estes field, embracing the north end of the Grand Falls district, Ward County, is destined to become the most closely drilled area in West Texas because of operators electing to drill twin locations. The field yields prolific wells from the 2600-foot and 2900-foot sandy-lime zone. Eight wells, indicated by circle on the above map, have been completed in the lower horizon, and twin locations are being drilled by F. H. E. Oil Company and The California Company. (Map by Southwest Mapping Company, Fort Worth.)**

the Stringtown shale. Thickness of the latter formation is unknown in the immediate area, but on the outcrop to the northeast in McCurtain County, Oklahoma, it is about 600 feet thick, according to James H. Gardner, Tulsa geologist, who owns a substantial interest in the above test and surrounding block. Gardner and Broswood Oil Company originally leased the 22,000-acre block, and sold protection to a number of majors after completion of seismograph survey of the structure.

Utiger 1 is 3304 feet higher structurally, based upon Stringtown shale correlation, than Olson Drilling Company et al's Southwestern Life 1, located 1½ miles to the north. The latter was junked in shale at 5890 feet, or within 110 feet of its contracted depth, early last September. Comparison of the two logs reveals a dip of about 30 degrees on the formations to the north of the active test. Utiger 1 entered the hard Woodford chert at 955 feet, with an elevation of 722 feet, while the first test logged top of chert at 4470 feet, with an elevation of 767 feet, and base at 5315 feet. Utiger 1 encountered 899 feet of chert, or 54 feet more than the junked test. This chert proved to be exceedingly hard, and the last 54 feet required 6 full days of drilling.

In Wise County, Texas Canadian Development Company, Inc., a Canadian concern engaged in exploring several large blocks for Ordovician lime production, is preparing to set 7-inch pipe after Leverett Estate 1, near SEc 160-acre lease, Block 19, Smith County School Lands, drilled through cap rock at 3215 feet. It is 4 miles northeast of Rhome. A second test to the Ordovician is to be on the L. W. Still 145-acre tract, I. Epps Survey, southwest of Greenwood.

## TEXAS PANHANDLE

### Completions

| Company, Well and Location | Init. Prod. Bbls. | Depth |
|---|---|---|
| CARSON COUNTY— | | |
| Empire O&R Co., Magnolia Pet. Co., 1-E | 555 | 3100 |
| J. M. Huber Pet. Co., S. B. Burnett 2-R | ¶23 | 2595 |
| Magnolia Pet. Co., Fee (244) 18 | 642 | 3055 |
| Skelly Oil Co., H. Schafer 81 | 646 | 3095 |
| United Crude Oil Co., Cooper 5-C | 943 | 3105 |
| GRAY COUNTY— | | |
| Champlin Ref. Co., D. J. McLaughlin 14 | 340 | 3000 |
| Cosmos Oil Co., T. W. Catlin 2 | 985 | 3218 |
| Danciger Oil & Refineries, Inc., W. Jackson 12 | 20 | 3100 |
| L. R. Hagy, Harrington & Marsh, J. W. Fields 2 | ¶23½ | 2678 |
| King Oil Co., Sailor 4 | 403 | 3264 |
| W. J. Moran et al, L. Holmes 4 | 551 | 3330 |
| J. R. Phillips et al, W. H. Taylor 1 | * | 3124 |
| Sunray Oil Co., Ferguson-Eddington 2 | 400 | 2870 |
| HUTCHINSON COUNTY— | | |
| J. M. Huber Pet. Co., Mrs. K. Reimer 2 | ¶10¾ | 2805 |
| Skelly Oil Co., E. E. Watkins 4 | 661 | 2972 |
| Turman Oil Co.-Plains Pet. Co., J. A. Whittenburg 8 | 802 | 2860 |
| Walero Oil Corp., W. B. Haile 2 | 495 | 3082 |
| MOORE COUNTY— | | |
| Texas Interstate P. L. Co., J. T. Sneed 1, sec 27 | ¶6¼ | 3057 |
| WHEELER COUNTY— | | |
| El Bar Corp., J. M. Noel 10 | 233 | 2490 |
| C. T. Palmer et al, A. Nelson 2 | ¶50.9 | 2210 |

*Failures; †Junked; ¶Million cu. ft. gas.

# *Paluxy Allowable*

## INCREASE NOT TO AFFECT PER WELL PRODUCTION

WEEKLY STAFF REPORT

**Tyler.**—Higher production allowables issued for the Talco and Sulphur Bluff fields, only Paluxy sand areas in East Texas, effective with the new year will be absorbed by recent completions, and the flat well quota will remain on the old basis. Both of these low gravity oil sources have active drilling programs lined up for the coming year. Talco has averaged about 30 rotary rigs in service for some months, and the number of rigs at Sulphur Bluff is being increased to 7, with 10 wells on production.

Majors are beginning to share in the activity at Sulphur Bluff. Shell Petroleum Corporation has awarded contract for drilling its first test in the northeast corner of its J. G. Reynolds 200-acre lease, offsetting D. S. Hager and W. P. Luse's Reynolds 1, which flowed 21 barrels of oil per hour from Paluxy section at 4473-4508 feet. This western-most producer cut through the fault plane at 3860 feet, with an elevation of 420 feet, and establishes a sharp turn to the southwest for the course of the fault. Empire Oil & Refining Company completed its J. E. Worsham 1, west offset to the southern-most producer, with a natural flow of 36 barrels per hour through tubing from sand at 4502-4550 feet. It registered a slightly higher structural position than the offset, thereby lessening the chances of the presence of a closure on the fault in the immediate area. Rig has been skidded north to take care of an offset, with another necessary offset pending. Walter Goldston et al have moved in their own rotary and are drilling Smith 3, a north offset to their last completion. F. D. Jones Drilling Company et al's J. K. Pierce-Gulf 7, located on east line of 150-acre lease within the proved area, was due to core the pay zone late last week. Hager, Luse and Russ Petroleum Company's Jeff Worsham 1, north offset to production logged saturated sand at 4496-4528 feet, and cemented 7-inch pipe to complete. The position of this test to the fault indicates that a north offset is likely to find the Paluxy oil zone cut out by the fracture, but the 39.82-acre lease affords one or two short locations to the west.

### Line Delayed

Completion of American Liberty Pipe Line Company's 6-inch crude line, extending from Sulphur Bluff field, to storage at Talco, has been delayed by right-of-way difficulties near Talco. However, the line is scheduled to be completed early this week, according to D. R. Zachry, manager.

Humble Oil & Refining Company's O. L. J. Easter 1, first Trinity test for the Emory geophysical prospect in eastern Rains County, was drilling in upper Glen Rose limestone at 6850 feet. Top of this lime was logged at 6347 feet.

Ike and William LaRue, Athens operators, have obtained purchase letters from a number of majors that have agreed to give liberal financial support toward the drilling of a Trinity test on the flank of the LaRue salt dome, Henderson County. Assembling of a block is now in progress. Heavy rotary is being moved in on American Liberty Oil Company and Tom F. Hunter's previously announced Trinity sand project on the Blackfoot structure, northern Anderson County, and drilling is slated to begin prior to January 1.

Resumption of exploratory work on the Grapeland structure, Houston County, where Ellison, McBride, Haberle et al completed a large gas and distillate producer from Woodbine sand at 6025-6037 feet last July, will begin within a few weeks. American Liberty Oil Company accepted title to the drilling block and well early last week, according to C. M. Johnson, secretary, and will proceed with the drilling of the first of three contracted tests as part consideration for control of the property.

Two projected Woodbine tests in Freestone County suspended operations during the mid-week for the holidays. C. A. Everts et al's O. W. Killam 1, which is testing a 2000-acre block about 6½ miles southeast of Fairfield and near the Red Lake gas area, shut down at 3490 feet. R. L. Wheelock, J. L. Collins et al's W. R. (Bill) Boyd Jr. 1, 4 miles southwest of Fairfield, logged Austin chalk at 3630-4002 feet, with an elevation of 425 feet, and halted work at 4015 feet.

## CAN FIX GAS PRICE

**Austin.**—The Third Court of Civil Appeals has held that the Texas Railroad Commission has the power to fix the well-head price of natural gas produced in Texas under certain conditions.

This holding was included in an opinion handed down with the decision last week in the M & M Pipe Line Company case.

The Railroad Commission had contended that it had the power to fix the price of natural gas at the well-head, and had found 5 cents to be a reasonable price for gas purchased by M & M Pipe Line Company from Humble Oil & Refining Company in the Raccoon Bend area.

The trial court held that the commission had no such power, but the appellate court reversed this decision

and rendered judgment for the commission.

The opinion held further that Humble Oil & Refining Company, by its contract with the M & M Company, had brought itself under the jurisdiction of the utility regulating powers of the Railroad Commission.

## FIVE-ACRE SPACING

### Amelia order indicative of change of policy

**Austin, Texas.**—Five-acre spacing for wells in the Amelia field, Jefferson County, is provided in an order issued by the Texas Railroad Commission last week. The wells may be drilled 233 feet from lease lines and 466 feet apart.

Close spacing is evidently indicative of a change in policy within the railroad commission itself. Several major companies urged that 20-acre spacing be provided, but this program was opposed by independent operators with small leases.

The last few orders containing spacing rules which have been issued by the commission have fixed 10-acre spacing or less.

The Amelia order provided also for a 200-foot string of conductor pipe and 1450 feet of surface casing.

A maximum gas-oil ratio of 2000/1 is also provided. No method of allocation was specified in the order which the commission issued.

## SEEK LEASE REVISION

**Austin.**—The State Board for Mineral Development has ordered owners of leases on state lands in the Sabine River bed in East Texas to appear before the board on January 16 and show cause why their contracts should not be revised upward.

By a special act of the Texas Legislature, the Mineral Board was permitted to reduce payments made by lessors to the State, because of the drastic reductions in East Texas allowables and the declining price of oil. This revision was allowed by the board at the time Mrs. Miriam A. Ferguson was governor.

The present board, which consists of Governor James V. Allred, Land Commissioner W. H. McDonald, and Railroad Commission Chairman Ernest O. Thompson, are of the opinion that the original terms of the contract should be followed.

## AGUA DULCE HEARING

**Austin.**—Extra casing to protect the 4800-foot gas sand in the Agua Dulce field in Nueces County, was advocated by the United Gas Corporation in a program presented before the Texas Railroad Commission last week; it was opposed by the Texon Royalty Company.

The hearing was called to discuss the effect of a blowout which the Texon experienced and which subsequently cratered and burned. United Engineers pointed out that unless the 4800-foot sand is protected and cased off there is danger that another blowout of this kind might ruin production from this source.

## EAST TEXAS
### Completions

| Company, Well and Location | Init. Prod. Bbls. | Depth |
|---|---|---|
| JOINER AREA— | | |
| Atlantic Ref. Co., L. J. Pinkston 11-C (84-ac) | 3600 | 3724 |
| Humble, J. H. Arnold 12 (81-ac) | 7600 | 3792 |
| Hudnall & Pirtle, Inc., H. J. Patterson 2 (13-ac) | 4000 | 3680 |
| Maryland Oil Co.-Westgate Oil Co., Cross-Ohio 2 (63.43-ac) | 800 | 3682 |
| Sinclair Prairie, A. S. Jarvis 14-B (106.9-ac) | 3500 | 3701 |
| Tide Water Associated, M. Hale 1-C (49.27-ac) | 5000 | 3688 |
| KILGORE AREA— | | |
| Central Commercial Oil Co., King-Shell 10 (44.4-ac) | 2500 | 3703 |
| Gulf Oil Corp., F. Birdsong 14 (98.42-ac) | 9600 | 3578 |
| Willie Holt 26 (185.12-ac) | 9200 | 3590 |
| Houston Oil Co., Hughey 5-A (44.23-ac) | 8400 | 3501 |
| Humble, L. D. Crim 178 (914.51-ac) | 8000 | 3586 |
| Jones & Shelburne, Inc.-L. W. Collander, Crim 5 (67.4-ac) | 600 | 3666 |
| Crim 9 (67.4-ac) | 600 | 3687 |
| Roger Lacy et al, J. F. Reynolds 7 (22.89-ac) | 4000 | 3551 |
| Magnolia, W. M. Jernigan 9 (80-ac) | 10,600 | 3670 |
| Selby O&G Co.-Lewis Prod. Co., M. T. Cole 14 (80-ac) | 9800 | 3561 |
| Shell, M. H. Vivins 19-A (113.4-ac) | 7000 | 3592 |
| Sinclair Prairie, J. E. Lawther 26 (317.68-ac) | * | 3625 |
| H. R. Smith, Inc., M. B. Hughey 9 (50-ac) | 8500 | 3512 |
| Sun & Seaboard Oil Corp., M. T. Cole 45 (266.17-ac) | 9000 | 3538 |
| Ed Smith 10 (57.31-ac) | 8000 | 3667 |
| Texas Canadian Oil Corp., A. Martin 3 (13-ac) | 700 | 3724 |
| J. D. Wrather-P. G. Reed, J. D. Taylor 3-C (10-ac) | 120 | 3551 |
| LONGVIEW AREA— | | |
| Barnett Pet. Corp., G. Cannon 5-8 (40-ac) | 1500 | 3658 |
| Humble, W. R. Hughes 44 (245.6-ac) | 4800 | 3630 |
| Jackson, Wise & Snedden, R. Corbin 8 (41.7-ac) | 8700 | 3647 |
| Johnson & Joe Burnham, O. J.Phillips 1 | 150 | 3727 |
| Magnolia, V. L. Goolsby 8 (73¾-ac) | 9600 | 3542 |
| Mrs. Joe Manziel et al, C. B. Mackey 3-B (15-ac) | 1000 | 3751 |
| P. F. Rutledge-C. W. Boller, P. Todd 18 (155-ac) | 1200 | 3740 |
| Shell, T. B. Stinchcomb 15 (89.76-ac) | 7500 | 3500 |
| Sinclair Prairie, J. W. Akin 19-B (100-ac) | 10,500 | 3610 |
| W. H. York 15 (86.45-ac) | 6000 | 3584 |
| C. R. Starnes et al, E. L. Walker 1 | * | 3602 |
| Sun Oil Co., A. Tooke 13-B (80-ac) | 10,000 | 3599 |
| ANDERSON COUNTY (Cayuga Field)— | | |
| Tide Water Associated-Seaboard Oil Corp., N. N. Wills 23-A | 3200 | 4067 |
| HENDERSON COUNTY (Cayuga Field)— | | |
| L. V. Marmar et al, I. W. Brown 1 (18¾-ac) | 3500 | 4096 |
| HOPKINS COUNTY (Sulphur Bluff Field)— | | |
| Empire O&R Co., J. E. Worsham 1 (149.26-ac) | 864 | 4550 |
| D. S. Hager-W. P. Luse, J. G. Reynolds 1 (200-ac) | 500 | 4508 |
| LEON COUNTY (Long Lake Field)— | | |
| J. B. Daniel Oil & Roy. Co., M. K. Carter 1 | * | 1322 |
| TITUS COUNTY (Talco Field)— | | |
| B. G. Byars et al, L. Blackburn 2-B (16 2/3-ac) | 327 | 4295 |
| G. M. W. Oil Co., W. D. Cato 1 (12½-ac) | 240 | 4361 |
| H. A. Lawson 1, lot 2, blk 29 | 250 | 4368 |
| H. A. Lawson 1, lot 1, blk 21 | 200 | 4366 |
| A. V. McElroy 2, lot 1, blk 27 | 240 | 4361 |
| Talco Townsite 7-A, lot 1, blk 32 | 240 | 4360 |
| Talco Townsite 15-A, lot 1, blk 36 | 360 | 4360 |
| W. B. Hinton et al, John Hargrove 5 (133.29-ac) | 840 | 4339 |
| L. H. Wilson 3 (119.51-ac) | 1000 | 4310 |
| Howze Oil Co.-Randy Moore, L. Blackburn 2 (16 2/3-ac) | 670 | 4300 |
| Humble O&R Co., E. L. & B. Riddle 1 (79.67-ac) | 800 | 4338 |
| Magnolia, C. M. Carr 4 (70-ac) | 431 | 4260 |
| W. H. Crawford 7 (80-ac) | 335 | 4315 |
| SMITH COUNTY— | | |
| W. L. Cloud et al, Dora Kendall 1-A | * | 2794 |

*Failures; †Junked; ¶Million cu. ft. gas.

# *Blowout Threat*

## STARR COUNTY WILDCAT PROJECTED TO 7,000 FEET

**Mission.**—F. Davenport and Transwestern Oil Company's T. B. Slick Estate 1, central Starr County wildcat, was attempting to blow out at 5607 feet, after coring a high pressure gas and distillate sand in the upper phase of the Jackson horizon. The well topped the sand at 5560 feet or 5570 feet, reports varying, and continued to the present level.

The hole is being conditioned with commercial mud, and a drill-stem test likely will be run. While no announcement has been made, it is anticipated that the well will not be completed in this sand at present, but will be carried deeper, possibly to 7000 feet, to test the Yegua. Casing may then be set and completion effected in this horizon.

The well, drilled on a tract of land owned in fee by the Slick interests for a number of years, is 330 feet from the north and east lines of the CCSD and RGNG Railroad Survey No. 485, and is 17½ miles northeast of Rio Grande City.

Sun Oil Company has taken over H. J. Porter et al's Sweeney Estate 2, replacement well for Sweeney 1, and is drilling below 6380 feet. It is in Lot 1, Wood subdivision, 6 miles southwest of Donna. It showed a small amount of mud cut with a little oil at 5962-75 feet.

Pantano Oil Company's two operations in the La Blanca area of Hidalgo County are near the possible producing levels. J. C. Engelman 1-B is around 6750 feet, while McDougal 1 is below 7000 feet.

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**Austin.**—The Texas Railroad Commission has issued an order providing for five-acre spacing in the Amelia field, Jefferson County. This decision is of considerable importance because it is the first instance in which the commission has allowed the drilling of wells closer than 1 to 10 acres in any field where wide spacing was sought.

A study of the orders issued during the past few months indicates that the commission is not allowing any spacing wider than 1 well to 10 acres, unless every operator in the field has agreed to a wider spacing program.

The order issued on Amelia provides for 200 feet of conductor pipe plus 1450 feet of surface casing. No method of fixing allowables was contained in the order.

# *Deep Sand Found*

## VICKSBURG MAY BE SOURCE OF JIM WELLS COUNTY OIL

WEEKLY STAFF REPORT

**Corpus Christi.**—Another deep sand, probably at the top of the Vicksburg, has been uncovered in the Bentonville-King district of Jim Wells County by La Jita Corporation's Frame and Bowers 2. On a four-minute drill stem test of sand 5681-85 feet, 1260 feet of 42 gravity pipe line oil and 100 pounds pressure were recovered through ¼- and ⅜-inch chokes. Casing is being set for completion.

The well, located 330 feet from the north and 990 feet from the east lines of Section 14, topped the regular Frio deep pay at 5337 feet. It found another sand at 5577-88 feet which showed gas, and still another at 5605-10 feet showing gas. Apparently at the base of the Frio, sand was encountered at 5653-63 feet, hard sand 5653-65 feet, broken sand to 5671 feet and shale to 5679 feet, where a two-foot cap overlaid the sand at 5681-85 feet. The well is still in sand at this level. Thickness of the sand has not been determined. It is believed there is a definite break in the geological age due to the fact that a drill stem test at 5653-58 feet, of four minutes duration, showed 415 pounds pressure with eight feet of 53.2 gravity oil through ¼ and ⅜ inch chokes. Less than 20 feet deeper, the oil showed a change in gravity of 11.2 degrees.

### Vast Potential Importance

This discovery, if it is in the Vicksburg, is of vital importance to the whole South Texas Coastal district. Heretofore, the bottom of the area's producing zone has been at the base of the Frio. Field wells in such areas as Refugio, Greta, Saxet, etc., have had showings of oil and gas in the Vicksburg, but none have developed appreciable oil in that horizon. The obvious result, contingent upon positive identification as Vicksburg is a general deepening of the exploratory work throughout the South Texas Gulf Coast.

Wellington Oil Company has drilled to contract depth of 7000 feet and set approximately 6200 feet of 5-3/16-inch casing in Myrtle L. Stockton 1, wildcat 12 miles southwest of Corpus Christi in Nueces County. It ran an electrical formation testing device, which showed a series of sands above this level. They will be tested by gun perforation.

The well is in SWC NE Section 23, Laureless Farm Tracts, and is one of several deep wildcats in a recent campaign in this portion of the county. It originally was started by Cosner and Cosner, but taken over by the Wellington organization after a sand showing oil was encountered at 4720 feet. All sand information in this well has been withheld since transfer of ownership, but it is understood that several excellent showings were encountered in the Marginulina and Frio formations.

### Nueces County Will Lead

Nueces County's development program to Frio sands may be expected to continue to lead the district in importance during 1937. A number of new wildcat locations have been staked, mainly through the western portion of the county and work on them has commenced. This new trend of play centers west of the Clara Driscoll Field and includes the sector around the Agua Dulce and Stratton prospects. South of Corpus Christi, the drilling campaign commenced sometime ago continues its pace.

Clara Driscoll field's outpost wells constitute the main interest at this time. Hinds and Phillips Petroleum Corporation's Clara Driscoll Sevier 1-A, two miles northwest of production, has been shut in until new high pressure storage can be installed. The present storage has been filled with distillate. The well is producing from a Frio sand between 5650 and 5850 feet, the exact depth being withheld. One mile southeast of the same well, Al Buchanan and Blanco Oil Company's Gandy 1 is drilling below 4550 feet, while Conroe Drilling Company and Hiriam Reed's Meyers 1, one mile south of production, is running an electrical formation tested at 4503 feet. Pan American Production Corporation and Wellington Oil Company's Sevier 1-A, southeast flank of the field, is waiting on cement after setting a string of casing to 6075 feet. After the Christmas season, it will make a series of tests above this level through perforations.

Saxet Field, same county, has several unusually deep wells. Hiawatha Oil Company's Griffith 6, drilled to 6802 feet and is running an electric formation tester, while Phillips Petroleum Company's Morgan 4 drilled to 6740 feet and has set casing at 6428 feet. Present deepest production in the field is at 6300 feet.

### Another Edna Horizon

Steinberger Petroleum Corporation has established another producing horizon in the Edna Gas Field of Jackson County. The discovery is in Steinberger Petroleum Corporation's S. G. Drushell 10, originally completed in September 1932 by the Chicago Gulf Corporation as a wet gasser from 5341-48 feet after plugging back from 6425 feet. The test was plugged back and casing perforated at 4800-20 feet, where completion was effected. It is flowing 3,000,000 cubic feet of gas and spraying about 8 barrels of oil per day through a quarter-inch choke with pressures of 1825 pounds on tubing and 1975 pounds on casing.

Over in Victoria County, Magnolia Petroleum Company's Willie Beck 1, T. & N. O. Survey No. 1, 4½ miles northwest of Telferner, is attempting to complete as a gasser. It drilled to 4812 feet, but plugged back to 4112 feet for a completion attempt, casing being set at 4100 feet. It flowed a fair volume of gas through a quarter-inch choke and had built up a working pressure of nearly 1400 pounds when salt water broke in from below the plug or around the casing. It is now attempting to cut off the water.

Plymouth Oil Company's E. H. Welder 65-C, Plymouth field of San Patricio County, cored a new oil sand at 6119 feet and was running a drill stem test. The present deepest sand in the field is at 5900 feet.

# *Tests Edwards Lime*

## MAY BE KEY TO IMPORTANT BALCONES FAULT DISCOVERY

**San Antonio.**—Burleson County's deep Edwards lime test, which may be the key to one of the most important Balcones Fault Zone discoveries, continued its test as the week closed. The well is showing a small amount of oil with the drilling mud while being swabbed from the Edwards limestone at 6226-41 feet. The test is Red Bank Oil Company's Nellie Gramm 1, E. Stantef Survey, 2500 feet northwest of the company's first test and 7 miles west of Chreisman.

The probable deep lime discovery was holding only a part of the interest in the Balcones Fault area, as old prospects continue to provide production in the Austin chalk. Newer methods of completion have provided unusual profits in these areas with depths ranging from 1500 to 2500 feet, and operators are redrilling locations in which showings have been obtained during the last several years.

### Chalk Strike Indicated

The newest area to indicate a new field in the chalk is 7 miles southwest of Lockhart, Caldwell County, where Brown Drilling Company is preparing to drill plugs after setting 6-inch casing at 1911 feet in G. M. Blackwell 1. The well encountered the chalk at 1918 feet and went out of the formation at 2154 feet. It topped Eagleford at 2154 feet and Buda lime at 2171 feet, which con-

tinued to the present depth of 2198 feet. Oil showings were found at 1918-24 feet, 1935-55 feet, 2018-22 feet, 2054-80 feet, 2096-2156 feet, and 2171-77 feet. Elevation is 486 feet, derrick floor. The test will be treated with acid before completion is attempted. It logs 51 feet higher on the base of the chalk than Grayburg Oil Company's abandoned Blackwell test, also in the John Roe Survey, which showed a little oil in the Edwards lime.

Two Austin chalk fields have been discovered on old prospects since December 1, while two wildcats are attempting to test showings in the same formation. In addition, a hot leasing and exploratory campaign through Bastrop, Caldwell and Guadalupe Counties is now under way. Aside from the Brown test, W. D. Bacon and Gordon Mackenzie are preparing to run casing after drilling to just below 1780 feet. The well is O. D. Halm 1, 2 miles south of Kingsbury, Guadalupe County, which topped the Austin chalk at 1652 feet and showed considerable oil. Elevation is 519 feet, derrick floor.

### Shallow Area Opened

Riddle Oil Company's E. Nolte et al 1, J. Sowell survey, 5½ miles southeast of Seguin, Guadalupe County, has been completed in the Chalk after plugging back from 1880 feet to 1850 feet. It is on pump and appears to be the opener of a rather important shallow area.

Helvetia Oil Company's Susie Pratt 2 apparently got a bad shot in the serpentine and is cleaning out preparatory to further testing. The well is on the Anchorage Serpentine prospect in Atascosa County. It drilled to 3460 feet, but plugged back to 3250 feet.

Amerada Petroleum Corporation's Halff and Oppenheimer 8, deep test in the Pearsall Field, Frio County, has set a string of 9⅝-inch casing at 6120 feet as a protection string and will drill ahead to test to possibly 10,000 feet in the Trinity. The well topped the Austin chalk at 5350 feet, Eagleford at 5780 feet and Buda at 5900 feet. It had good oil showings in the Navarro, Chalk and Buda, present producing horizons in this field, but passed them up for the lower levels.

## NEW LOMA NOVIA AREA
### Magnolia's strike is in northern Duval County

**Laredo.**—A new Loma Novia sand area in Northern Duval County has been established by the Magnolia Petroleum Company's E. and E. Labbe 1, which is in process of completion at 2850 feet. The well is showing about 15 million cubic feet of gas and has a slight petroleum odor. The heavy gas volume is expected to prevent production of any oil which may be present in the formation at this location. The well topped sand at 2842 feet which continued to 2850 feet. A drill stem test in the upper section showed dry gas, but a test of the lower portion carried a little oily mud. Casing is set at 2844 feet.

Labbe 1 is 2330 feet from the west line and 2586 feet from the north line of Section 221, and is northwest of the Hockleyensis gasser in Labbe field. The wildcat showed gas in the same horizon at 2449-53 feet. It is about 1½ miles northeast of the Loma Novia sand oil production in Seven Sisters field and is only slightly deeper than the production in that field. It, however, is believed that the production is from a different lens.

Argo Royalty Company and John Clopton's Smith Corkill Estate 1, center of east quarter of Section 61, two miles south of Hoffman field, also in Duval County topped Government Wells horizon at 2839 feet, the first two feet being cap and the next five feet being oil and gas sand. Elevation is 679 feet.

Drill stem test was being run late in the week.

Humble Oil & Refining Company's H. C. Edrington 2, several miles northeast of the Seven Sisters field, but in McMullen County, has been abandoned at 3053 feet in the Pettus horizon. It is a half mile west of Edrington 1, which showed a little oil in the same horizon.

Edwin M. Jones' Harry Ezzell 1, five miles northwest of Simmonds City in McMullen County, was still out of control late in the week after blowing out December 16 from the Government Wells sand at 1181-1203 feet. It was coring at 1280 feet for the Mirando horizon when the blowout occurred. While the well is making a large volume of dry gas, it is not expected to crater, sufficient surface casing being in the hole.

## START OAKVILLE TESTS
### Pettus sand oil well flowing 50 barrels oil

**Beeville.**—Several new locations are to be staked immediately in the Oakville area, Live Oak County, where Ohio Fuel Supply Company last week developed oil production in the Pettus sand at 2797-2808 feet. Dirks Brothers have tentatively staked Rosebrock 1, an east offset, while Simmons Oil & Gas Company is to drill on the Reagan tract, immediately to the south of the new producer.

Ohio Fuel Supply Company's H. J. Rosebrock 1 was flowing an estimated 50 barrels of oil and about 5,000,000 cubic feet of gas per day through 3/16-inch choke. The crude is about 30 gravity, but likely will be much lower if solid fluid wells are obtained lower on the flank of the structure.

The new producer is ½ mile northeast of the field's Pettus sand discovery well, completed by Simmons Oil & Gas Company several months ago as a gasser at 2790-2816 feet.

Another test is reported to be planned for the near future in the Maetze area of Goliad County, where one well is producing gas with a spray of distillate just above 3500 feet. Felmont Corporation abandoned its second test in this area at 3802 feet, it being Hoff 1, 3000 feet southeast of the discovery.

Several other tests were abandoned or were preparing to abandon in this district. Benson & Jones' G. A. Ray 1, 3 miles east of Beeville in Bee County, was shut down at 4910 feet and likely would quit. Sun Oil Company's J. G. James 1, McGloin Survey, 1½ miles west of Mikeska in Live Oak County, was a failure at 5030 feet.

## SOUTH TEXAS
### Completions

| Company, Well and Location | Init. Prod. Bbls. | Depth |
|---|---|---|
| ARANSAS COUNTY— | | |
| Atlantic Refg. Co., McCampbell Ranch 1-C, lot 9, block 41, McCampbell Ranch sub (McCampbell) | 850 | 6544 |
| BEXAR COUNTY— | | |
| Jim Beard, Juan Barragon 2, J. Simpson sur No. 59 (Von Ormy) | 6 | 661 |
| H. V. Hange & G. E. Connell, Willie Mahula 1, 260'ft e Abbott rd, 2000 ft n Greyton rd, 504-ac tr, J. M. Bastillo sur No. 29, 5 mi nw Adkins | * | 335 |
| CALDWELL COUNTY— | | |
| Martell Pet. Co., W. M. Sanders 1, 750 ft sel of 140-ac lse, and 150 ft ne rd in Miles C. Dykes sur, 2 mi ne Dunlap area | * | 2416 |
| CALHOUN COUNTY— | | |
| Humble Oil & Ref. Co. & Plymouth Oil Co., P. H. Welder 6-A, J. M. Rios sur (Heyser) | 350 | 5499 |
| Humble Oil & Ref. Co. & Plymouth Oil Co. P. H. Welder 6-B, Agaton Sisneros sur (Heyser) | 1000 | 5494 |
| Portilla Drlg. Co., P. H. Welder 2-C, Agaton Sisneros sur (Heyser) | 600 | 5477 |
| DUVAL COUNTY— | | |
| Atlantic Ref. Co., J. F. Welder heirs 1-H, sur 103 (Loma Vista) | * | 3035 |
| Mills Bennett Prod. Co., Ira G. Yates 5, sur 560, 3599 ft sl, 3462 ft wl of sur | * | 3515 |
| Cox & Hamon, W. R. Peters 23, sur 322 (Lopez) | 500 | 2151 |
| W. R. Peters 28, sur 322 (Lopez) | 375 | 2122 |
| Humble Oil & Ref. Co., A. H. Badgley 16, sur 307 (Seven Sisters) | 750 | 2507 |
| A. H. Badgley 17, sur 307 (Seven Sisters) | 750 | 2494 |
| Magnolia Pet. Co., Servando Benades 18, blk 7, O'Hern & Seacord Subd (Cole) | 600 | 2839 |
| C. W. Hahl 51, sur 67 (Loma Novia) | 500 | 2729 |
| Mrs. Emma Herbst 7, sur 70 (Loma Novia) | 200 | 2730 |
| Sun Oil Co., M. C. Hubberd 1-B, sur 82 (Loma Novia) | * | 2851 |
| The Texas Co., A. H. Badgley 6, sur 307 (Seven Sisters) | 850 | 2522 |
| E. R. Thomas, Lillian Parr 2, 330 ft sl and 330 ft wl of ne¼ of sur 2 | * | 4900 |
| Westheimer & Daube, Z. Campos 26, sur 224 (Seven Sisters) | 750 | 2712 |
| GOLIAD COUNTY— | | |
| Felmont Oil Corp., W. Hoff 1, 1223 ft sl, 330 ft el of 75-ac tr, BS&F sur No. 7, 3000 ft se of disc well in Maetze field | * | 3802 |
| GONZALES COUNTY— | | |
| H. H. Weinert, Inc., & Marts & Beavans, Martindale 1, 3889 ft swl, 1375 ft nwl of J. Robinson sur No. 10, 2½ mi Ottine | * | 3746 |
| HIDALGO COUNTY— | | |
| Weekly Oil Corp., George, Mrs. Lulu 3, Juris. of Reynosa, (Samfordyce) | 250 | 2771 |
| JACKSON COUNTY— | | |
| Steinberger Pet. Corp., S. G. Druschill 10, N. F. Rodriguez sur, (Edna), perf 4800-20 ft | ¶3 & 10 | 6425 |
| LIVE OAK COUNTY— | | |
| Sun Oil Co., J. G. James 1, 3265 ft nel and 466 ft sel of 1258.3 ac tr, Patrick McGloin sur, 1½ mi w Mikeska | * | 5030 |
| McMULLEN COUNTY— | | |
| Humble Oil & Ref. Co., H. D. Edrington 2, 330 ft s and el of e½ sec 59, AB&M sur, 2640 ft w No. 1, 6 mi ne Seven Sisters field | * | 3053 |
| Loma Oil Co., L. Jacob Corp. 13-F, J. Fadden sur No. 8 (Jacob) | * | 864 |
| Stewart Oil & Gas Co., L. Jacob Corp. 7, J. Fadden sur No. 8 (Jacob) | * | 923 |
| NUECES COUNTY— | | |
| Baltic Drlg. Co., Harold & Savage 1, blk 18, Country Club Place (Saxet Heights) | 400 | 4097 |
| J. K. Culton, H. B. Baldwin 10, blk 19, Russell Farm Lots (Saxet Heights) | * | 4091 |
| Great State Oil Corp. & Violet Oil Co., McGregor-Belk 7, sec 311 (Saxet) | 450 | 6326 |
| Phillips Pet. Co., Katherine Hutchins 5, lots 29 and 30 of Sheppard Farm lots (Saxet) | 500 | 6330 |

*Failures; †Junked; ¶Million cu. ft. gas.

| Company, Well and Location | Init. Prod. Bbls. | Depth |
|---|---|---|
| Port Oil & Gas Co., Aaron Cohen 3, Webb 1000-ac tr (Saxet Heights) | 250 | 4082 |
| Renwar Oil Co., W. F. Willoughby 1, 3500 ft se of n cor of 860-ac tr and 330 ft w Petronilla Crk, sec 4-G Garrett sub, Petronilla Singer sur 5 mi se Driscoll | * | 6005 |
| Richardson Pet. Co., Cain & Sechrist 11, blk 23, Russell Farm lots (Saxet) | 500 | 4437 |
| F. Quiros 6, blk 39, Sheppard Farm lots (Saxet) | 650 | 5836 |
| Saxet Prod. Co., H. H. Edwards et al 3, 32-ac tr, Evans sur (Saxet) | * | 4118 |
| Southern Minerals Corp., H. Bernson 1, sur 410 (Saxet) | * | 4098 |
| Frank Bliss 19, J. W. Stevens sur (Saxet) | 750 | 5835 |
| A. J. Till 1, Page Lands sur (Saxet) | ¶25 | 6605 |
| Texon Drlg. Co., Carter-Ocker-Till, 5, sur 402 and 316 (Saxet) | 600 | 4466 |
| S. M. Vance 3, T. Gallagher sur, (Saxet) | 800 | 4413 |
| United Prod. Corp., W. W. Walton 2, W. W. Chapman lands subd (Agua Dulce) | ¶20 & 100 | 5801 |
| SAN PATRICIO COUNTY— | | |
| Humble Oil & Ref. Co., W. M. Bevly 4, sec 35, Taft farm lots (Plymouth) | 1250 | 5646 |
| J. W. Mayo 7, J. H. Ottman sur (Taft) | 160 | 3981 |
| J. W. Mayo 11, Ottman sur (Taft) | 500 | 4910 |
| VICTORIA COUNTY— | | |
| Barnsdall Oil Co. & American Liberty Oil Co., Pickering-Roos 10, SA&MG sur (Placedo) | 900 | 4768 |
| Commonwealth Oil & Gas Co., F. E. Parencia 4, J. M. Brownson sur (Placedo) | 500 | 4776 |
| WEBB COUNTY— | | |
| Mills Bennett Prod. Co., A. S. Billings 11, sur 113, (Lopez) | 340 | 2147 |
| Ivan Howard et al, Frost Nat'l Bank 3, sec 475, 330 ft nl, 330 ft el of sec | * | 1905 |
| Mortimer & Springer, Maurice Lopez 10, sur 73 (Lopez) | 435 | 2166 |
| Sierra Oil & Roy. Co., A. S. Billings 4-B, sec 113 (Lopez) | 290 | 2226 |
| Smith & Hamill, S. Benavides 16, blk 370, M. E. Hale sub (Cole) | 1245 | 2924 |
| ZAPATA COUNTY— | | |
| H. & R. Oil Co., M. Garza Est. 8, blk 11, Douglas subd (Escobas) | 60 | 1260 |
| Valley Osage Oil Co., A. D. Haynes 2, blk 14, Haynes subd, Comitas & Villa gr (Comitas) | 75 | 1068 |

*Failures; †Junked; ¶Million cu. ft. gas.

## TEXAS GULF COAST
### Completions

| Company, Well and Location | Init. Prod. Bbls. | Depth |
|---|---|---|
| ANAHUAC— | | |
| Humble, White 18 | 468 | 7135 |
| Sun, M. White 2 | * | lcn. |
| BATSON— | | |
| John Deering, Hooks 5 | 62 | 5272 |
| Gulf, Wing 179 | 20 | 600 |
| Wing 180 | 10 | 900 |
| CONROE— | | |
| Humble, Pressyler 1 | * | 5259 |
| DICKINSON— | | |
| Humble, Boone 1 | 336 | 9149 |
| HASTINGS— | | |
| Stanolind, R. O. Surface 2 | 576 | 6100 |
| LOUISE— | | |
| Pure, Stewart 5 | 280 | 5153 |
| MANVEL— | | |
| Burton Drilling Co., Cambell 1 | 40 | 4065 |
| C. H. Ore 1 | 170 | 4069 |
| RACCOON BEND— | | |
| Humble, Diemar 10 | * | 4230 |
| Duncan State Land 4 | 360 | 4112 |
| SOUTH HOUSTON— | | |
| Stanolind, Holland & Price 4 | 352 | 4000 |

*Failures; †Junked; ¶Million cu. ft. gas.

**Shreveport.**—Fourteen drilling permits were authorized last week by the minerals division, Louisiana Conservation Commission, of which 7 were for North Louisiana, divided among the following parishes: Caddo 2, DeSoto 1, Sabine 2, and Union 2.

# *Segno Productive*

## COTTON LAKE WILDCAT FLOWS 25 BARRELS PER HOUR

GULF COAST — WEEKLY STAFF REPORT

**Houston.**—A new oil field was assured the Texas Gulf Coast December 24 when J. K. Dorrance et al's Wing 1, Segno prospect, I. & G. N. Survey, Polk County, came in flowing 25 barrels of fluid per hour from Cockfield formation at 5194 feet. The fluid showed 90 percent 38 gravity oil and 10 percent washwater. Tubing pressure was 775 pounds; casing pressure 350 pounds. Flow was through a quarter-inch choke. No salt water is shown in the fluid. The well was washed for two hours ending at 3 a.m. December 24 and then started flowing a small stream of oil and washwater. It has not cleaned itself yet, but is recognized as a discovery well.

Salt Dome Oil Corporation was attempting a squeeze job at the end of the week to shut off the salt water flow in Lawrence 1-A, Cotton Lake area, S. Barrow Survey, Chambers County, which looked disappointing December 23 when a production test of Frio sands at 6538 feet showed oil and salt water. The well was washed for two hours ending 7 a.m. December 23 and was making an estimated 30 barrels of fluid per hour, 50 percent oil and 50 percent salt water. Flow was through a quarter-inch choke. Tubing pressure was 525 pounds. Casing was cemented at 6645 feet and perforated with 19 shots from 6532 to 6538 feet. Lawrence 1-A was drilled to 7002 feet, but no drill stem tests were taken while drilling to that depth. Cores taken consisted of thin sections of sand showing oil and gas. After running an electrical logging device, casing was set.

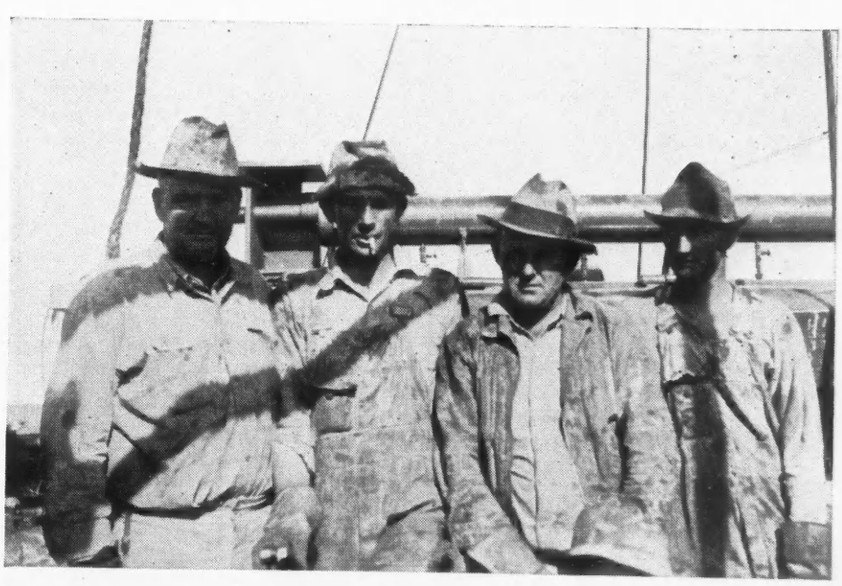
After the operators complete the squeeze job another production test will be made. If the well is a commercial producer it will open a new oil field in the Texas Gulf Coast.

### Silsbee Looks Good

Northwest of the cratered well at Silsbee in Hardin County, Republic Production Company's Brooks 2, J. W. Brooks Survey, was flowing oil and washwater December 24 from a new upper Cockfield sand at 6897 feet. No gauge had been taken on the well at the end of the week. A drill stem test at 6910 feet showed no water, 20 fourbles of 38 gravity oil and a 100-pound pressure in eight minutes. Seven-inch casing was cemented at 6897 feet.

Atlantic Pipe Line Company is constructing a 4-inch line from Silsbee field to the company's main trunk line, located approximately two miles east.

In Tyler County and south of Spurger field, Republic Production Company's Hurd Fee 1, N. Hurd Survey, made a drill stem test from a corrected depth



**One tour of the crew which proposes to present Salt Dome Oil Corporation a nice Christmas present, an oil field, at Cotton Lake, Chambers County. From left to right: F. L. Kirk, driller; J. H. Brown, helper; R. E. Casey, fireman; J. H. Creel, derrick man. J. B. Stroud, another helper is not shown in the picture.**

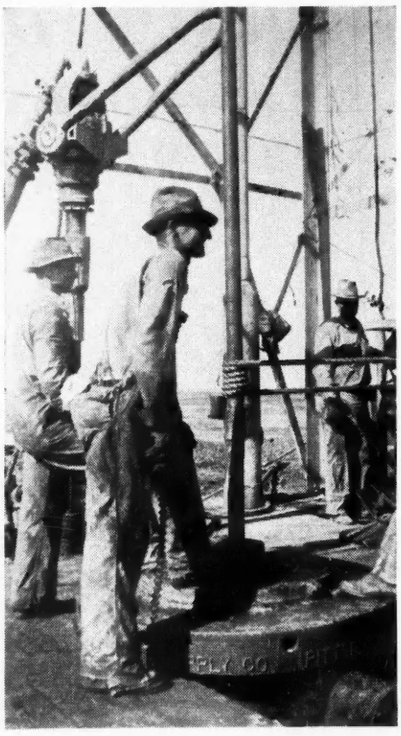
of 7706 to 7714 feet and showed 15 fourbles of salt water in 10 minutes through a quarter-inch choke. The well showed no pressures.

Northeast of production at Ace in Polk County, Peyton Brother's Kirby & West 1-B, J. S. Thomas Survey, was running seven-inch casing to 4868 feet and will perforate casing for a production test over the week end. On a 10-minute drill stem test from 4847 to 4868 feet the wildcat showed 20 feet of pipe line oil and 30 feet of oil cut mud through two quarter-inch chokes and a 900 pound pressure.

Beaty, Bowles & Borsodie's Truska 1, Algoa prospect, H. & T. B. Survey No. 6, was coring at 8619 feet for the Frio formation. It is reported that the well is running around 250 feet higher than normal. However, it was reported that the Marginulina formation thickened and that the well would not be so high after the Frio was encountered.

On the Needville prospect in Ft. Bend County, Sam Harrison's V. Horak 1, H. & T. C. Survey, Section 36, was coring in shale at 5609 feet after coring salt water sands from 4769 to 5346 feet. A few shale breaks were encountered while coring the salt water sands. Salt water sands were also found from 5302 to 5320 feet and from 5334 to 5346 feet.

Approximately 1700 feet northeast of production at Hastings, which extends over into Galveston County from Brazoria County, Humble Oil & Refining Company's Berkhemer 1, B. B. B. & C. Survey, encountered an oil sand at 6061 feet which looks as though it might extend the field. The hole is bottomed at 6080 feet in shale, but sand showing oil was logged from 5991 to 6061 feet. Casing was cemented at 5991 feet. A production test will be made next week.



**Running 2½-inch tubing in Salt Dome Oil Corporation's Lawrence A-1, Cotton Lake area, Chambers County.**

Glenn H. McCarthy's Longe 1-B and 2-B on the north side of Amelia field, Jefferson County, were dead at the end of the week after making production tests of a new Marginulina sand at 6401 feet. Both wells were perforated from 5858 to 5868 feet with 12 shots and from 5874 to 5894 feet with 12 shots and showed from 50 to 75 barrels of oil daily through a quarter-inch choke, with a tubing and casing pressure of 350 pounds. The wells died when the pressure declined.

One location northeast of production at Anahuac field, Chambers County, Gulf Oil Corporation set 7-inch casing in Wilcox 1. The hole is bottomed at 7090 feet in oil sand after logging the pay at 7010 feet.

On the north side of Anahuac, Humble Oil & Refining Company completed White 18, flowing at the rate of 18 barrels per hour through ¼-inch choke from 7135 feet. Several attempts were made to make White 18 flow at 7130 feet, but the north extension test had to be drilled 5 feet deeper before it would flow naturally.

Sun Oil Company abandoned location for M. White 2 on the northwest side of Anahuac.

### Conroe Defined on North

Conroe field was defined on the north side last week when Humble Oil & Refining Company abandoned Presslyer 1 at 5259 feet in Cockfield formation.

Sun Oil Company's Chambers 3 at Turtle Bay field, Chambers County, was coring salt water sand at 7164 feet. Top of the broken sand showing salt water was found at 6619½ feet, and from there to 7164 feet the bit encountered brackish water.

North of production at Cotton Lake, Glenn H. McCarthy's Kilgore 7, J. Townsend Survey, Chambers County, was waiting on cement to set at the end of the week. The hole is bottomed in oil sand at 6308 feet. Top of the sand was found at 6294 feet.

On the Seabreeze prospect, Sun Oil Company's White Estate 2, T. & N. O. Survey, finished testing casing at the close of the week and will probably make a production test at 8715 feet next week. A pressure of 1800 pounds was placed on the casing and it was found to be alright.

Sun Oil Company was reaming down to 7210 feet on Hebert Broussard 1, Labelle prospect, Jefferson County, at the end of the week to set casing at 8217 feet in sand showing oil. Casing will be set and a production test will be made next week.

On the northeast flank of Dickinson field, Galveston County, Humble Oil & Refining Company completed Boone 1 at 8072 feet after drilling to 9149 feet. The well made 14 barrels per hour through ¼-inch choke.

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# *Two New Fields*

## FOUND IN ST LANDRY AND LA FOURCHE PARISHES

**Lake Charles.**—Discovery of two new fields and indications of another over-shadowed other important Louisiana Gulf Coast developments, which included the setting of a record string of 5-inch casing on what may become the deepest commercial producing well in the world, the finding of oil shows below 10,000 feet in several tests, new wildcat locations, and extensions to proved areas.

### New St. Landry Field

A new oil field was discovered in St. Landry Parish by Superior Oil Producing Company, December 22, when A. Savoie 1 flowed 41 barrels in 15 hours through 18/64-inch choke with a tubing pressure of 2100 pounds and a casing pressure of 2150 pounds from Miocene formation at 5319½ feet.

A. Savoie 1, in Section 26-8s-3e, approximately 2 miles northeast of Bosco on the Cankton prospect, was drilled to 9428 feet and encountered salt water sands in the formations which were found productive at Bosco. After running an electrical logging device and taking sidewall cores, the wildcat was plugged back, 7-inch casing was cemented at 6676 feet. Ten perforated holes were made from 5316 to 5319½ feet and allowed the 36 gravity oil to come through. Tubing was hung at 5280 feet.

The Cankton prospect was made known by reflection seismograph and torsion balance by two major oil companies. Limited Oil Company drilled a 9005-foot dry hole in this area the past year that encountered several showings of oil. No sands were found thick enough or sufficiently saturated to warrant testing.

### La Fourche Wildcat Promising

Pan-American Production Company and Barnsdall Oil Corporation, joint owners of a 2508-acre tract on Valentine geophysical prospect centering around Section 7-17s-20e, La Fourche Parish, apparently were assured a new oil field December 21 when Harange 1 showed for commercial production on a drill stem test from Shoal River sands of Miocene age at 6905 to 6974 feet.

Although the tool slipped in slightly less than two minutes, a drill stem test on the above date built up a 25-pound pressure and showed 120 feet of 35 to 36 gravity oil, 90 feet of sand, and 180 feet of drilling mud from 6957 to 6974 feet. Seven-inch casing has been set at bottom and was to be perforated.

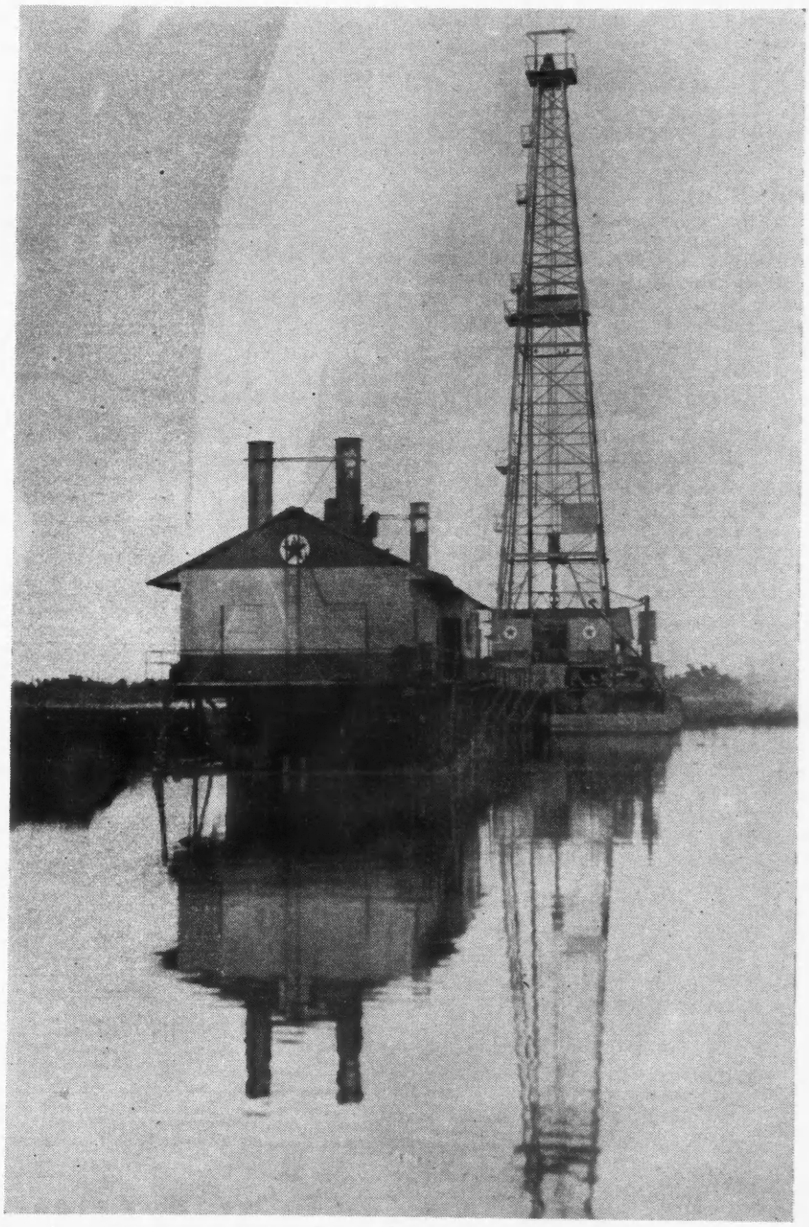
In addition to half interest and operating control on the 2508-acre block on Valentine prospect shared 50-50 with Barnsdall Oil Corporation, Pan-American Production Company owns full interest in 1700 acres on the prospect. And it is reported that correlation between Harange 1 and wells previously drilled on the prospect indicates a substantial portion of the 1700 acres will be productive.

Barnsdall Oil Corporation drilled three dry holes on the above prospect before surrendering part acreage to Pan-American Production Company. The former company discovered the salt dome when a well was drilled into the formation. Each of the three wells drilled at Valentine had sands showing oil.

### 12,000-Foot Casing String

One of the most difficult cementing jobs ever attempted on the Gulf Coast will be tried soon on Continental Oil Company's Hebert 1, Abbeville prospect, Vermilion Parish. What is believed to be oil sand was encountered from 12,197 to 12,216 feet, evidenced by oil and gas in the ditch. No core was taken at 12,197 feet, but the bit encountered a soft formation.

The company will set 5000 feet of 5-inch O.D., 21-pound, flush-joint cas-



**The camera man snapped The Texas Company's R. C. Milling 1, Lafitte field, Jefferson Parish, taking a core at 10,000 feet, making this the tenth test in the Louisiana Gulf Coast to drill below 10,000 feet. It also indicates that it will be the first well to yield commercial production below that mark.**

ing on bottom. In making this setting the casing will be attached to the drill stem by a safety joint. On the bottom of the casing will be a bit which will allow the crew to rotate the casing down into the sidetracked hole and take in a few more feet of sand if necessary. Before cementing the 5-inch, the drill stem will be separated from the casing by means of the safety joint and then backed off. The casing will then be cemented on bottom. After cement has hardened, the crew will run a second string of 5-inch, internal flush, external upset casing and attempt to stab and make up with top of the original 5000-foot string of 5-inch. The second string of casing will be about 7214 feet long. After the full string has been set, it will be cemented. Then a production test will be made.

Rendering the cementing job more difficult, Hebert 1 is in a sidetracked hole at 12,216 feet, having whipstocked at 10,812 feet.

If the well produces, it will be the deepest producing well in the world and will open a new field for the Louisiana Gulf Coast. It is already the second deepest test ever drilled in the world and the deepest in the Gulf Coast district.

On the South Abbeville or Intercoastal prospect, Stanolind Oil & Gas Company was shut down at 10,212 feet on Fred Stovall 1, Section 89-14s-3e, waiting on high tide so that fuel can be barged in. It will be interesting to watch this wildcat. If Continental Oil Company's Hebert 1 produces oil in commercial quantities Fred Stovall 1 will probably be carried to the 12,197-foot sand.

### Lafitte Is Interesting

One of the most important field developments in the Louisiana Gulf Coast is The Texas Company's operations at Lafitte field, Jefferson Parish, where R. C. Milling 1 is the tenth well in the South Louisiana area to penetrate formations below 10,000 feet. Further interest was shown in the well because it is drilling in sand showing oil at 10,040 feet. Top of the broken sand formation showing oil was logged at 9884 feet. This well probably will be carried down to the Oligocene formation to make tests of sands found in the same interest's L. L. E. Lafitte 5, which was completed for a commercial producer. R. C. Milling 1 is on the northeast flank of the field and if productive will extend the field. This field is being watched closely by major and independent oil companies because it is believed that the first 10,000-foot production will be established in this area. If the field does yield oil below that depth it will be the deepest natural flowing field in the world. The Texas Company's Rigolets 5, Section 29-17s-24e, on the south flank of Lafitte, is attracting considerable attention also. A string of casing is being run to 10,250 feet. It is not known if it is intended to make a production test or use the string of casing to protect the hole. However, it has been reported that over 100 feet of sand showing oil has been cored. The hole was drilled originally to 10,942 feet, where an attempt to run casing was made, but it lodged around 7000 feet and had to be shot off. The hole then was sidetracked and redrilled to the present depth. While drilling in the first hole, sands showing oil were encountered at 9685 feet and at 10.058 to 10.064 feet. Broken sand also was found from 10,002 to 10,048 feet.

## SOUTH LOUISIANA
## Completions

| Company, Well and Location | Init. Prod. Bbls. | Depth |
|---|---|---|
| CAMERON MEADOWS— | | |
| Burton Sutton Oil Co., School Land 15 | 35 | 3345 |
| ENGLISH BAYOU— | | |
| Fohs Oil Co., Castle 16 | 520 | 7050 |
| FOUR ISLAND— | | |
| Texas Co., L. L. E. Four Island 6 | * | lcn. |
| L. L. E. Four Island 7 | * | lcn. |
| GILLIS— | | |
| Union Sulphur, Barbee Estate 11 | 415 | 6735 |
| JEANERETTE— | | |
| Herton Oil Co., Roane 4 | 735 | 6650 |
| JENNINGS— | | |
| Cosmo Pet. Corp., Jennings Clements 4 | 270 | 2000 |
| Superior, E. Crowley 1 | 694 | 5530 |
| NEW IBERIA— | | |
| Harry Fotiades, Gulf Fee Land 3 | 486 | 4508 |
| Wm. Helis, Bullock 3 | 458 | 3983 |
| TEPETATE— | | |
| Continental, Homeseekers 8-A | 150 | 8317 |
| IBERIA— | | |
| Jefferson Lake Oil Co., Lake Peigneur 413, Lake Peigneur prospect, 12s-5e | * | 1070 |
| LIVINGSTON PARISH— | | |
| Bunte Oil & Gas Co.'s F. L. Davis 1, Denham Springs area, 707s-3e | * | lcn. |
| ST. JAMES PARISH— | | |
| Shell, Colonial Sugar 2, Hester prospect, 5-12s-5e | * | 8422 |
| ST. LANDRY PARISH— | | |
| Superior, A. Savoie 1, Cankton prospect, 26-8s-3e | 65 | 5319 |

*Failures; †Junked; ¶Million cu. ft. gas.

Locations for three new wildcats were announced in the Louisiana Gulf Coast the past week—one by Fohs Oil Company and two by The Texas Company.

Near Long Lake, Fohs Oil Company made location for State Long Lake 1, 8160 feet north and 1500 feet west of the southeast corner of Section 77, being in Section 65-17s-19e, La Fourche Parish. It is west of the Valentine prospect where Pan-American Production Company now has a well that indicates a new field. The general area around Long Lake has been active for some time, with geophysical and leasing work being participated in by several major and independent operators. State of Louisiana leased a number of lakes, rivers and swamps in this area.

South of the town of Morgan City on what is called the Morgan City prospect, St. Mary Parish, The Texas Company announced location for State Bateman Lake 1, 313 feet north and 2593 feet east of the southwest corner of Section 21-16s-12e. The wildcat will be drilled on one of Louisiana Land & Exploration Company's prospects. The latter company drilled a 6055-foot dry hole in this area several years ago.

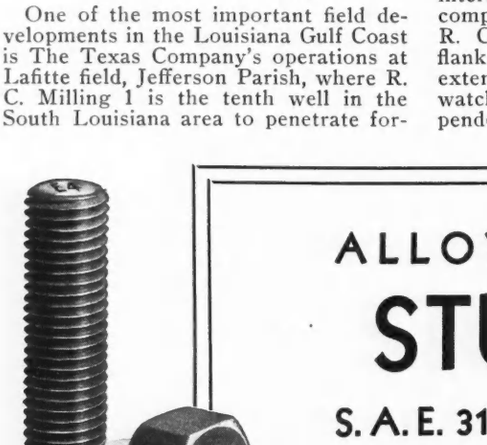
The Texas Company made a third location on Lake Mongoulois prospect in St. Martin Parish. State Lake Mongoulois 1 is 6024 feet east and 1679 feet south of the southwest corner of Section 10-10s-9e. It is approximately 2200 feet southeast of State Lake Mongoulois 1, which proved the prospect as a salt dome some time ago.

North of production at Gillis field, Calcasieu Parish, Union Sulphur Company completed Barbee Estate 11, Section 1-9s-8w, flowing at the rate of 415 barrels of pipe line oil daily through a 24/64-inch choke with a tubing pressure of 250 pounds from 6720 feet.

Union Sulphur Company made location for another graben well between the Gillis and English Bayou fields. M. McIver 1 is 1385 feet west and 250 feet south of the northeast corner of Section 14-9s-8w, Calcasieu Parish.

### New Jennings Sand

Superior Oil Producing Company has evidently hit a new oil sand at Jennings, Acadia Parish, because Jennings Heywood 1, Section 41-9s-2w, was drilling in sand and shale showing oil and gas below 6727 feet, which is beneath the regular producing horizon. The well completed the previous week,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E. Crowly 1, made a good producer but will be drilled deeper in search of additional sands. The well is on the southwest flank of Jennings field.

On the flank of Starks field, Cameron Parish, J. R. Turnbull made a drill stem test on Industrial Lumber Company 1, Section 20-9s-12w, from 5550 to 5570 feet in 6 minutes and showed 14 stands of salt water and one stand of mud and no pressure. The crew will carry the well deeper.

At Jeanerette field, St. Mary Parish, Herton Oil Company completed Roane 4, Section 40-13s-9e, for 735 barrels of 36.6 gravity pipe line oil per day through ¼-inch choke with a tubing pressure of 1200 pounds from Miocene sands at 6650 feet. Top of gas sand was logged at 6628 feet and oil sand at 6640 feet. Seven-inch casing was cemented at 6642 feet. The same interest's Banta 6, Section 40-13s-9e, was setting 7-inch casing before making a production test. Oil sand was found at 6609 feet. Carter 3, Section 38-13s-9e, was killed because of salt water encroachment. The hole is bottomed at 6737 feet in sand showing oil. Top of the sand was logged at 6723 feet, and 7-inch casing was set on top of the oil sand. The well came in making 400 barrels of fluid daily showing 6 percent salt water through ¼-inch choke with a tubing pressure of 875 pounds. The hole has been plugged back to 6682 feet.

South of Baton Rouge on the University Block prospect, Louisiana Crusaders Oil Company's L. S. U. 1, Section 65-7s-1w, East Baton Rouge Parish, was reaming at 6625 feet after showing salt water on a drill stem test. A 15-minute test was taken of sands at 6383 to 6625 feet which showed seven stands of salt water and seven stands of mud through ¼-inch choke.

It is believed that The Texas Company's State Vermilion Bay 1, in Vermilion Bay, 16s-5e, Iberia Parish, will be the next and eleventh 10,000-foot well in the Louisiana Gulf Coast. At the close of the week the crew was drilling ahead in shale below 9908 feet.

The second failure for Hester prospect in St. James Parish was reported last week when Shell Petroleum Corporation abandoned Colonial Sugar 2, Section 46-12s-5e, at 8422 feet.

The Texas Company's State Lake Pelto 15, Section 17-23s-18e, Lake Pelto field, Terrebonne Parish, was waiting on the perforating gun at the end of the week at 7160 feet. It is not known if the well will perforate casing in a new producing sand or not, but it has been drilled below the producing level of the field.

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**El Dorado, Ark.**—Only one drilling permit was authorized last week by the Arkansas Board of Conservation, as follows: Joe G. Strahan, Ashdown, Arkansas, Dierks Lumber & Coal Company 1, located 1000 feet south and 500 feet east NWc SW SE 21-12-28, Little River County.

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**Jackson, Miss.**—United Gas Public Service Company's pipe line last week tied into State of Mississippi's recently completed gas wells on the state's 1320-acre state lease in Section 25-6n-1e, Hinds County, in the northern part of the Jackson gas field.

# *In Glen Rose Sand*

## CLAIRBORNE WILDCAT OPENS NEW PRODUCTION

NORTH LOUISIANA

WEEKLY STAFF REPORT

**Shreveport.**—A new basal Glen Rose lime oil field for North Louisiana appeared assured last week when E. T. Oakes, H. D. Easton and associates' Patton Estate 2, NE NE 1-20n-5w, Claiborne Parish, was brought in flowing by heads from 5359 feet from 20 feet of saturated oolitic lime; elevation is 347 feet.

Although the well has not thoroughly cleaned itself and swab was run Tuesday after it had been allowed to head for four days, it makes much fluid after each swabbing, and Tuesday night broke the connection and flowed steadily for 20 minutes. Preparations were being made Thursday to run liner and set tubing with packer in an effort to bring in the well with a steady flow. The hole is standing full of fluid.

The oil is 37.99 gravity, and a refinery test is being run to determine its gasoline content. The well did not thoroughly clean itself while being allowed to head, but while swabbing showed about 60 percent oil and 40 percent drilling water. No salt water appeared.

Five and three-sixteenths inch casing was cemented at 5305 feet after an electrical tester was run that showed good porosity and resistivity. The well is on a 7000-acre block and is 6 miles northeast of the Sugar Creek gas field that produces a saturated gas both from the Glen Rose and upper Travis Peak. As no wells to the Glen Rose have been drilled between it and the Sugar Creek field, this area is expected to get some immediate tests to that horizon. The Oakes-Easton well is also 4 miles south of United Gas Public Service Company's Meadows 1, Section 13-21n-5w, that was drilled over 3 years ago to 6712 feet and abandoned but which has been seeping oil for over two years. Origin of this oil is unknown. United still owns this 12,000-acre block.

Oakes assembled his block after geological work had been done by Easton, who is also part owner of the well. Their first hole, 72 feet from the present location, was lost as a junked hole at 4239 feet. The two holes have been over two years in drilling. Each formation has been thoroughly cored. Oakes set 7-inch casing at 5007 feet after a show of gas but did not test this horizon.

### Cass County Anniversary

Saturday, December 26, was the first aniversary of oil production on the Cass County, Texas, side of the Rodessa field. Up to December 22, a total of 139 oil wells have been completed on that side of the field, which is now more than three times as active as the Louisiana side, the Texas side last week having 68 active operations as compared to 18 on the Louisiana side.

Up to December 15, the Louisiana side which has 352 wells, of which 291 are classed as oil wells, the others, all but 20 of which drilled before discovery of oil in that field in July, 1935, were classed as distillate wells until a new order for the Louisiana side for regulating gas-oil ratios was promulgated, has produced a total of 18,600,-

### *Rodessa Order*

*[Continued from page 10]*

good working order. Sufficient tankage shall be provided on each lease to permit the taking of the allowable production. Each operator shall be allowed to produce oil only by the use of equipment which results in the most efficient utilization of available natural energy or by augmenting the natural energy in a manner to reduce waste. Rules for prevention of fire hazards are given.

It is also required that all wells producing two percent or more of salt water must be reported to a conservation agent.

It is also required that "no gas found in the upper part of a producing horizon which can be separated underground from the oil in the same horizon, or in a different horizon, shall be used to flow oil to the surface, and all gas, so far as it is practical to do so, shall be separated underground from the oil and securely protected.

"No two horizons capable of producing oil and gas, or either of them, shall be left open in the same well unless such horizons are naturally interconnected in such manner as to prevent practical separation. The Hill sand horizon, the Neugent sand horizon, the Gloyd (or Caddo Levee Board) horizon, and the Dees-Young group are each recognized as separate reservoirs and shall be so maintained. In any well in the field in which the Dees formation and the Young formation can be practically separated, such separation shall be maintained. Any well producing oil and gas, or either of them, from two or more horizons shall be shut in and the operator shall make all diligent effort to secure separation of the said horizon; any well in such condition that separation is practically impossible shall be plugged and abandoned."

575 barrels of oil, as compared to Cass County's cumulative production of 2,266,425 barrels.

The Christmas holiday lull was evident in Rodessa last week. Operators on the Louisiana side were mainly concerned with the issuance of a new gas-oil ratio and regulating order for the field effective January 1, which places the gas-oil ratio for all oil wells on that side of the field at 2000 to 1, and classifies most of the distillate wells as gassers. Texas since oil was discovered on that side of the field has had a gas-oil ratio of 2000 to 1.

Under an order of the Louisiana Conservation Commission promulgated last September 15 as a temporary order but which has been extended from time to time in force, the gas-oil ratio at Rodessa was 12,500 to 1 for oil wells and 25,000 to 1 for distillate wells.

Thirteen miles southwest of nearest Rodessa production, Holcomb, Thomasson and associates' Lizzie Henderson 1, R. Bennington Survey, logged top of massive anhydrite at 5504.9 feet and later was coring anhydrite and shale just below 5800 feet. Elevation is 221 feet. Operators claim that this well cannot be truly correlated with Rodessa. With elevation of 294 feet, W. F. Lacey's Lewis 1, H. Holbert Survey, west outpost test, was drilling Wednesday 5840 feet after logging top of massive anhydrite at 5121 feet.

Two miles north of the Louisiana side of production, J. Edward Jones' Maidie Sharp 1, SW NE SW 4-23n-16w, continues to flow 180 barrels per day through 18/64-inch tubing choke from the Gloyd formation. Two miles southwest of this well and 1½ miles northwest of production, Bay Oil Company's George Parker 1, G. Crowder Survey, Cass County, is awaiting railroad commission gauge after 70 to 75 barrels of oil per hour by heads through 3/32-inch tubing choke from 6050 feet.

## NORTH LOUISIANA

### Completions

| Company, Well and Location | Init. Prod. Bbls. | Depth |
|---|---|---|
| **RODESSA** | | |
| CASS COUNTY (Texas)— | | |
| Magnolia Pet. Co., Rives 10, Jno. Collum sur | 1000 | 6044 |
| Phillips Pet. Co., Aline Skinner 3, SFIW sur | 1100 | 6101 |
| Marion 1, W. R. Meyers sur | 1100 | 6123 |
| CADDO PARISH (Pine Island)— | | |
| Stanolind O&G Co., Dillon Hrs. 114, 14-21n-15w | 120 | 1674 |
| GRANT PARISH (Urania)— | | |
| Acadian Prod. Co., Swope B-4, 18-9n-1e | 75 | 1604 |
| Petroleum Products Corp., Fee 1, 18-9n-1e | * | 1608 |
| MOREHOUSE PARISH (Monroe)— | | |
| Carbons, Consolidated, Feazel 8, 3-20n-4e | ¶4½ | 2151 |
| OUACHITA PARISH (Monroe)— | | |
| Carbons Consolidated, Fee 10, 26-19n-3e | ¶2½ | 2188 |
| RED RIVER PARISH— | | |
| Bird Expl. Corp., J. M. Edge 1, 29-13n-11w | * | 2499 |
| Waller 1, 29-13n-11w | † | 2456 |
| UNION PARISH (Monroe)— | | |
| Interstate Nat. Gas Co., Fee 57, 30-21n-4e | ¶28 | 2141 |
| Southern Carbon Co., Grayling 14, 5-21n-4e | ¶5½ | 2186 |
| Tensas Delta 17, 4-20n-4e | ¶4½ | 2165 |

*Failures; †Junked; ¶Million cu. ft. gas.

# *Second At Gato Ridge*

## KETTLEMAN HILLS HAS DOZEN TESTS AT ADVANCED DEPTHS

WEEKLY STAFF REPORT

**Los Angeles.**— Eighteen wells are drilling in the Kettleman North Dome field, 12 of which are being drilled by Kettleman North Dome Association and 6 by Standard Oil Company of California. More trouble is being experienced in completing producers in this field than two to three years ago. A lot of plugging back is necessary and cementing through perforations is practiced. Of the 18 wells, 12 are below 8000 feet and 3 are below 9000 feet.

The most recent completion was Kettleman North Dome Association's No. 58-28J, Section 28-21-17, which came in for 1500 barrels of 36.3 gravity oil, with bottom at 8070 feet. This well is producing through 4⅜-inch perforated from 7648 to 8070 feet, on gas lift.

In the Sheills Canyon area of Ventura County, Petroleum Security Company's Home Ranch 4 was completed at 3236 feet for 390 barrels of 38 gravityity clean oil. This is the fourth producer for this company on what is known as the Doheny home ranch property.

On the Gato Ridge anticline, 15 miles southeast of Santa Maria, the second well, Barnsdall Oil Company's Tognazzini 2, was completed, flowing with pump agitation at the rate of 1800 barrels a day of 14 gravity clean oil. After

**At left, Ward B. Blodget, listens as Frank Champion, Jr., tells him all about it in the Pershing Square scene from "The Story Tellers", presented by the Wildcat committee of the California Oil & Gas Association before those attending the annual Christmas Jinks at the Biltmore hotel, Los Angeles, December 18.**

producing nearly two days, all available storage was filled and the well was shut in. The depth is 2500 feet, with 10¾-inch water string cemented at 1800 feet, and 724 feet of 8⅝-inch perforated liner landed at 2498 feet. The structure here is a curved anticline and production is obtained from a zone of fracturing in the hard, cherty shales of the Monterey formation (Miocene). The fractures caused loss of circulation in each of the two wells so far drilled on the structure, necessitating the use of large quantities of "plug" materials before penetration of the oil zone could be completed.

### Cleaning Newest Discovery

Standard Oil Company's K. C. 11-1, located in the Rio Bravo area 12 miles west of Bakersfield, is being cleaned out for a production test of California's latest oil discovery. Oil sand was cored in this wildcat well from 7742 feet to 7805 feet and the hole was bottomed in shale at 7807 feet. The 9⅝-inch water string was cemented at 7738 feet. This well was located following extensive geophysical work which indicates an anticlinal structure near what has previously been considered the axis of the great San Joaquin Valley geosyncline.

Associated Oil Company's K. C. L. 1, wildcat well located 6 miles west of Standard Oil Company's K. C. 11-1, above, has lost a total of 70 days time as a result of caving formations, and the operator has finally succeeded in cementing a protection string of 8⅝-inch casing at 7358 feet. The hole is temporarily bottomed at 7685 feet, and no showings of oil or gas have been encountered.

In the Wasco-Semitropic area, 27 miles northwest of Bakersfield, Continental Oil Company's K. C. L. A-1 has also experienced a great deal of difficulty with caving formations, entailing the use of large quantities of cement and commercial materials to hold the formations in place. Depth of the hole is 6503 feet, and 9⅝-inch protection casing is now standing cemented at 3353 feet, although it was intended to be cemented at 5484 feet.

Standard Oil Company's K. C. 10-1, located 1 mile north of the discovery well of the Ten Section oil field, was cored to 8900 feet without encountering showings of either oil or gas, and preparations are being made to abandon. Top of the oil sand in the discovery well was cored at 7812 feet.

Associated Oil Company's Reward 5 in the North Belridge oil field, 45 miles west and north of Bakersfield, started flowing at the rate of 90 barrels an hour of 30 gravity clean oil through the drill pipe while the liner was being run. The well was killed, the tubing run, and the well returned to production flowing 1610 barrels a day. Depth is 9027 feet, with 7-inch water string cemented at 8364 feet, and 716 feet of 4¾-inch perforated liner landed at 9022 feet.

Roscoe & Stanley's No. 1 appears to have discovered a northwesterly extension of the Premier oil field 12 miles north of Bakersfield. A recent bailing test indicated that the fluid entering the hole is all oil, and preparations are being made to put the well on the pump. Depth is 2660 feet, with 8⅝-inch casing cemented at 2540 feet, and 125 feet of 6⅝-inch liner, including 100 feet of 140 m. perforated, landed at 2660 feet.

Union Oil Company plans to use its Bell 100 at Santa Fe Springs to explore for possible oil zones between the Lower Clark zone at 7550 feet and a projected depth of 12,000 feet. This well is located near the structural apex of the Santa Fe Springs field. The hole is being cored ahead at 7440 feet in oil sand and shale, following the required shut-off test of the 8⅝-inch casing which was cemented over the Upper Clark zone at 7427 feet and cemented through perforations by the multiple stage method at 6202 feet, over the O'Connell zone.

### Deepest in Basin Area

Superior Oil Company's Inglewood Extension 1, wildcat test in Fox Hills, 11 miles southwest of Los Angeles, is being cored ahead at 9490 feet, and enjoys the distinction of being the deepest well ever drilled in the Los Angeles Basin. The basal conglomerate zone, which is the objective of this well, has not been reached. Since 13⅜-inch casing only is cemented at 898 feet, this project now has 8592 feet of open hole, approaching the world's record for open hole now held by Signal Finance Company's Woods 1, drilled 6 miles to the southeast with 8885 feet of hole open below the surface casing.

Standard Oil Company's Bodger 1, wildcat well 15 miles southwest of Los Angeles, is being cored ahead at 7892 feet, with no important oil or gas showings to date. Until recently, formation testers have been run every 50 feet whether or not oil showings had been noted. This practice has been discontinued, and testers will be run only when cores or ditch showings indicate that an oil-bearing formation has been penetrated.

Bringing in its third successful pro-

## TWO NEW TANKERS

**Los Angeles.**—Standard Oil Company of California has contracted with Sun Ship Building & Dry Dock Company, Chester, Pennsylvania, for construction of two 12,900-ton steam turbine propelled tankers. They are to be sister ships and will have capacity of more than 100,000 barrels each.

## CALIFORNIA Completions

| Company, Well and Location | Init. Prod. Bbls. | Depth |
|---|---|---|
| LOS ANGELES COUNTY— | | |
| Republic Prod. Co., Jordan 1..... | * | 1567 |
| FRESNO COUNTY— | | |
| Mohawk Pet. Co., Langer 1..... | * | 6935 |
| KETTLEMAN HILLS— | | |
| Kettleman No. Dome Assn., No. 58-28J ..... | 1500 | 8070 |
| BELRIDGE— | | |
| Associated Oil Co., Reward 5..... | 1500 | 9027 |
| MOUNTAIN VIEW— | | |
| Hancock Oil Co., Miller 10..... | 420 | 5123 |
| KERN FRONT— | | |
| Honolulu Oil Corp., No. 79..... | 250 | 2866 |
| E. B. Milburn, No. 1..... | 220 | 2232 |
| GATO RIDGE— | | |
| Barnsdall Oil Co., Tognazzini 2..... | 1870 | 2500 |
| SHIELLS CANYON— | | |
| Petroleum Sec. Co., H. Ranch 4... | 390 | 3236 |

*Failures; †Junked; ¶Million cu. ft. gas.


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ducer on the Williams lease, south of Taft, Union Oil Company has placed on production Williams 3, pumping 710 barrels. The well was completed at 2084 feet. Gravity of the oil is 16.6; the cut 3.4 percent. This is the second well the company has brought in during the past month on the Williams lease. It raises the company's total number of producers in this area to six.

## CRUDE RUNS DOWN

**Washington, D. C.**—Crude runs to stills declined by 24,000 barrels from the daily average of September but were at a rate nine percent higher than in October, 1935, according to the monthly refinery report of the Bureau of Mines, issued December 15.

As the bureau reported daily average runs of 3,005,000 barrels for October, weekly production figures for the period ended December 5 indicated continued reduction in crude production, the average of 3,010,000 barrels for the week being 15,000 barrels under the level of the previous week, with runs to stills dropping below the 3,000,000-barrel mark to 2,990,000 barrels.

The refinery report showed receipts of crude for October at 92,590,000 barrels, of which 89,635,000 barrels were domestic and 2,955,000 barrels foreign. Runs to stills totaled 93,146,000 barrels and fuel and losses were 350,000 barrels the excess over receipts being taken out of storage stocks, which declined from 580,360,000 barrels October 1 to 57,454,000 barrels October 31.

# *Test Is Watched*

## LITTLE BEAVER CREEK WILDCAT CORING FOR OIL

ROCKY MOUNTAIN FIELDS

WEEKLY STAFF REPORT

**Casper, Wyo.**—Oil observers are closely watching the second deep test of Little Beaver Creek Dome, superimposed structure on the 90-mile Baker-Glendive anticline, extending from through Dawson and Fallon counties, eastern Montana, into Harding County, South Dakota. Montana-Dakota Utilities Company's R. S. Smith 1, C SE NE 8-4n-62w, Fallon County, is coring at 6694 feet and feeling for oil saturation in the lime. The hole is about 100 feet above the point where the company's initial test developed a good show of oil.

The discovery well, Montana Dakota's Unit 1-8, NE NE NW 17-4n-62w, ¾ mile to the south, last May started off at 150 barrels per hour in the lime at 6747-98 feet, but water broke through from the bottom of the hole and production rapidly turned to fluid. After several attempts to cement back and drill in by stages, the company was unable to shut off water. The formation was cemented and cased off and the well deepened to 8121-36 feet, where it was rated at from 300 to 400 barrels daily on a short production test. The lower producing horizon was tentatively identified as the Madison. The upper showing is believed to have been developed in the Madison lime.

Thirty miles southeast in the Baker gas field, the same operator's deep well to untested sands underlying this Baker-Glendive structure, Warren 1, C SW 28-3n-59w, is also approaching a critical depth and is drilling at 6124 feet in the red beds.

Great importance is attached to these two wells, for in the event of developing commercial production it will be the first oil discovered in far eastern Montana and will set up an important source of supply for states with heavy demands for motor fuels and tractor distillates. Before water broke through in the initial test of Little Beaver, one major oil company was contemplating the laying of a line from Baker-Glendive east to St. Paul and Minneapolis.

### Wertz Discovery Drilling Plug

Sinclair-Wyoming Oil Company's Wertz 10-A, SE NW 7-26n-89w, which opened up a new Wyoming oil pool last week in the Tensleep in the old Wertz gas field, Carbon County, is drilling plug with the 7-inch production casing set at 5863 feet, with hole bottomed in sand at 5883 feet. A week ago the well tested 100 barrels an hour through the drill stem with tester seated at 5861 feet. An analysis of the Wertz oil shows a comparatively low sulphur content for Tensleep oil, 1.31 percent, and the gravity is 34.5. It is a mixed base oil and is a brownish green in color, which compares with the black crude produced from the one Tensleep well in Little Lost Soldier field, a twin structure adjoining Wertz to the southwest. The high gravity of the oil, its low sulphur content and its lighter color reflect a better light on the possible development of Tensleep oil in the Big Medicine Bow, Rock River, Quealy, and other light oil fields producing from the Dakota and Sundance sands in southern Wyoming. Tensleep oil, developed principally in the Big Horn Basin black oil area of northern Wyoming, is primarily an asphaltic base, and gravities thereof range from 16 to 22 degrees.

The well further brightens prospects for developing deep production in the

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Sinclair-Wyoming Oil Company's holdings in the Muskrat gas structure to the northwest in Fremont County, where a test is at a critical stage. Sinclair's Muskrat 2-C, NE SW SW 1-33n-92w, is fishing bailer at 7200 feet with 3000 feet of oil standing in the hole from the Embar. Depth is 7293 feet. The Embar was topped at 7268 feet. Embar lime is just above the Tensleep sand.

On their two top structure starts in the prolific Big Medicine Bow field, Carbon County, central Wyoming, Ohio Oil Company and California Company are moving in rotary equipment. The wells are Kyle 2, C SE SE 26-21n-79w, a half mile west of the discovery, which came in last June for combined initial of 6360 barrels of 64 gravity oil and 81,000,000 cubic feet of gas daily from the first and second Sundance sands, and Union Pacific-Cronberg 4, C SW SW 25-21n-79w, ¾ mile south of the discovery.

### East Allen Lake Gas Field Looms

A new gas field appears in the making for Wyoming as the year draws to a close. Medicine Bow Oil Company's Hintze-Government 1, C NE SE 18-22n-78w, East Allen Lake structure, Carbon County, is drilling out plug with the 8⅝-inch production casing set on top of the Tensleep sand at 1900 feet. East Allen Lake is southeast of gas production developed in the Allen Lake field, NW 34-23n-78w.

## MOUNTAIN STATES
## Completions

| Company, Well and Location | Init. Prod. Bbls. | Depth |
|---|---|---|
| **MONTANA** | | |
| GLACIER COUNTY (Cut Bank)— | | |
| John Marshall, Allotted 2-119, lot 3, 1-32n-6w | 80 | 3086 |
| PHILLIPS COUNTY (Bowdoin)— | | |
| Montana Dakota Utilities, Bell 1, nw sw nw 8-32n-4e | ¶½ | 762 |
| TOOLE COUNTY (Kevin-Sunburst Field)— | | |
| Shaver Oil Co., Shaver 1, sw se ne 11-34-2w | 30 | 1473 |
| YELLOWSTONE COUNTY Mosser Dome)— | | |
| R. C. Tarrant, Mosser 2, cwl sw ne 26-3s-24e | water | 2571 |
| **WYOMING** | | |
| ALBANY COUNTY (Little Laramie Creek)— | | |
| California Co., Bath 1, nw nw sw 4-16n-75w | * | 3886 |
| HOT SPRINGS COUNTY (Zimmerman Butte)— | | |
| Empire State Oil Co., Larson 1, nw se nw 32-44n-93w | * | 2037 |
| NIOBRARA COUNTY (Lance Creek)— | | |
| Argo Oil Co., Elliott 8, nw se 5-35n-65w | ¶3 & 1560 | 4071 |
| Continental, Dielman 2-A, nw ne ne 7-35n-65w | 720 | 4025 |
| SWEETWATER COUNTY (South Baxter)— | | |
| Mountain Fuel, Adam Cooper 1, cnw se 15-16n-104w | ¶18 | 2218 |
| WASHAKIE COUNTY (Hidden Dome)— | | |
| Wyoming Oil & Ref., Government 5, s nw nw 31-48n-90w | 23 | 1527 |
| Bruce Teeter, Government 4, nw sw nw 31-48n-90w | water | 1790 |
| Jeffries & Cahoon, Government 1, sw ne sw 30-48n-90w | * | 2245 |
| UNITA COUNTY— | | |
| Pacific Oil Co., Government 1-B, nw nw sw 10-14n-118w | * | 1807 |
| **COLORADO** | | |
| BOULDER COUNTY— | | |
| Boulder Prod. & Dr. Co., Maxwell 2, nw nw ne 24-1n-71w | * | 2427 |

*Failures; †Junked; ¶Million cu. ft. gas.

Ohio Oil Company's Harrison-Cooper 7, C NW 2-19n-78w, which completed in 1923 for 150 barrels initial in the Dakota at 2850 feet, missed oil production in the Sundance at Rock River, and is deepening for a test to the Tensleep, drilling ahead at 3651 feet.

Topping granite without developing any commercial showings of oil or gas, Ohio Oil Company's Joseph Waggoner 1, C NE NE 14-28-63w, marked an important failure for eastern Wyoming. The test, on the Jay Em-High structure located by seismic reflection, lies to the east of the Fort Laramie fault and in the center of a vast drainage basin comprising the southeastern corner of Wyoming, southwestern corner of Nebraska, and the northeastern corner of Colorado.

### Two Completing at Lance Creek

Two wells were completing in the Lance Creek field, Niobrara County, eastern Wyoming, while one new well got under way. Ohio Oil Company's Agnes Rohlff 4, C SW NE 32-36n-65w, which apparently defines limits of the Sundance pool in the north end of the Lance Creek field, swabbed 87 barrels in 24 hours and was still testing. An 11-inch wall-scraper was run in the basal Sundance at 3864-3964 feet to increase production. Wells in the north end of the field encountered thick and porous sand bodies in the Sundance, but gas pressure is appar-


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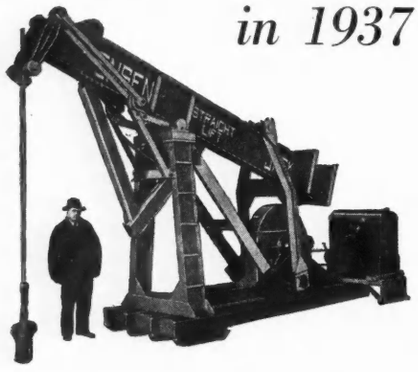

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ently lacking in the north end of the field.

Continental Oil Company is swabbing and testing its Schurieth 2-B, SE SW SE 6-35n-65w, in the south end of the field, after fishing out a wall-scraper. The well plugged back from 4080 feet to 4000 feet to shut off water developed in the bottom of the basal Sundance.

Argo Oil Company is moving in material for Ford 3, SW NW 33-36n-65w. The well is an outside location on the northeast side of the Sundance pool. It offsets Ohio Oil Company's Agnes Rohlff 3, a nominal Sundance producer to the east, and Carrie Putnam 5, a large producer, to the north.

### Northern Wyoming

A good completion in the northern Wyoming fields this week was Stock Oil Company's Griffin 1, NE NE NE 4-55n-97w, in the Garland field, Big Horn County, completed for an estimated 400 barrels daily in the Madison formation at 3854-4200 feet, based on a short swabbing test. No production test has been made.

Ohio Oil Company's Smith 2, W½ NW SE 35-55n-97w, Garland, is waiting on cement to set around 5¾-inch production casing set at 4070 feet on top of the Madison formation, from which saturated cores were recovered. Depth is 4191 feet. The company's Clarissa Willey 1, SEc NE NE NW 25-56n-97w, Byron field, Big Horn County, northern Wyoming, is nearing completion state in saturated Embar formation at 5250 feet. The operators have set 7-inch production casing on top of the saturated formation and are waiting on cement to set before drilling in.

In Badger Basin field, Park County, northern Wyoming, Resolute Oil Company is building new derrick over its State 1, C NW SW 16-57n-101w, to replace that one which was destroyed by fire three weeks ago. A production test will be made in the well as soon as the rig is up.

Stormy weather with temperatures hovering around 30 degrees below the freezing point has reduced Montana drilling operations to an almost complete standstill this week.

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**Oklahoma City**. — The Oklahoma Corporation Commission has increased the minimum allowable of wells in the Jesse pool of Pontotoc County from 75 to 100 barrels of oil per day. A minimum of 150 barrels was sought by Choctaw Oil & Gas Company.

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## ORDER TOO COSTLY

### Commission is asked to rescind re-test for Yates

**San Angelo, Texas.**—Large property owners in the Yates field have appealed to the Texas Railroad Commission to rescind the recent order issued for a re-test of the flowing potential of each producing well for the reason that the cost would not be justified. The authorized survey of bottom-hole pressures and gas/oil ratios will receive full co-operation of the operators, according to reports.

Producing leases in the Yates field are stripped of surplus flow lines, separators and lease tankage. Operators estimate that approximately 36 car loads of equipment, representing an outlay of nearly $500,000 would be required to permanently equip each well so as to make an open flow gauge as specified by the order.

In view of the high potential registered by the majority of the flowing wells in the Yates field, only 12-hour potentials are used as a basis in apportioning production along with the acreage factor.

## EASTERN FIELDS

EASTERN FIELDS — WEEKLY STAFF REPORT

## Completions

### OHIO

| Company, Well and Location | Init. Prod. Bbls. | Depth |
|---|---|---|
| ATHENS COUNTY— | | |
| B. Johnson, Anna L. Snow 4..... | ¶ | 842 |
| C. M. Muzum, E. A. Pearson 3.... | 10 | 1435 |
| Ohio FG Co., Sadie Hawk 1..... | ¶ | 1108 |
| Leeper & Co., Frank Jackson 2.... | ¶ | 870 |
| D. T. Orndorff, W. C. Mingus 1... | ¶ | 1280 |
| CLINTON COUNTY— | | |
| Ira Hazelett, S. M. Guthridge 1..... | 85 | 3108 |
| McClay Bros., Geo. Boyd 3..... | ¶ | 2987 |
| HOCKING COUNTY— | | |
| Kachelmacher, Nelsonville Coal 5... | ¶ | 2154 |
| Griffin Producing Co., Abram Mohler 2 ..... | ¶ | 2939 |
| Kelch Bros., Frank Edwards 1..... | ¶ | 1565 |
| LICKING COUNTY— | | |
| Murphy Emerald, Clarence A. Lynn 1 | * | 2952 |
| MEDINA COUNTY— | | |
| Ohio FG Co., T. S. Litchfield 2.... | ¶ | 3086 |
| MEIGS COUNTY— | | |
| Holmes & Co., Jos. A. Byres 1.... | * | 2091 |
| J. C. Proffitt & Co., J. C. Proffit & Co. 1 ..... | ¶ | 2095 |
| Ohio FG Co., Don T. Anderson 1... | ¶ | 768 |
| Stanley Cross 3 ..... | ¶ | 2105 |
| MORGAN COUNTY— | | |
| Ohio FG Co., Geo. Hill 1..... | * | 1193 |
| MUSKINGUM COUNTY— | | |
| Lupher Dry Co., Wm. Kilpatrick 1. | * | 4192 |
| PERRY COUNTY— | | |
| Foraker & Co., Herbert A. Wise 1.. | ¶ | 3780 |
| Wehrle Bros., Worley Deaver 5.... | 4 | 1056 |
| VINTON COUNTY— | | |
| I. C. Robinson, B.O.S.W.W.R.R. 1.. | * | 3541 |
| WASHINGTON COUNTY— | | |
| McTaggart & Co., J. W. Miller 2.... | ¶ | 1528 |
| Hicks Oil Co., Albert Slack 5..... | ¶ | 1843 |
| Stewart & Elliott, Jas. R. Heslop 14. | ¶ | 1025 |
| G. H. Gales, Gales 1..... | 5 | 660 |

### WEST VIRGINIA

| | | |
|---|---|---|
| KANAWHA COUNTY— | | |
| United Fuel Gas Co., Mohler Lbr. Co. 4617 ..... | ¶ | .... |

*Failures; †Junked; ¶Million cu. ft. gas.

# THE OIL WEEKLY REPORT ON IMPORTANT *Wildcat Tests*

## ALABAMA

HOUSTON COUNTY—Rice O&G Co.'s Oakley Est. 2, nw sw 9-3n-29e, elev 191 ft. installing heavier rig, td 4002 feet.

MOBILE COUNTY — Grand Bayou O&G Co.'s J. A. Stafford 1, sw sw 24-7s-3w, lcn.

## ARKANSAS

CLEVELAND COUNTY—J. R. Lockhart's I. Robertson 1, sw se 36-10n-11w, coring 3075 ft.

DALLAS COUNTY — Walter Lown's Atkinson 1, ne nw se 7-10-13, claim so in sand, sd cur titles td 2418 ft. sand.

GRANT COUNTY—Wallace & Staples' W. F. Davis 1, se se nw 23-6-15, tested sg in ds test in sand from 1861-69 ft. arr deepen td 1869 ft.

HEMPSTEAD COUNTY—H. D. Easton et al's Conway-Tiller 2, sw sw 34-12-27, elev 251 ft. arr deepen 3005 ft. Root Pet. Co.'s Jones 1, ne sw ne 16-13-23, elev 348 ft. top Nacatosh 595 ft. base chalk 1253 ft. top Tokio 1613 ft. massive anhydrite 1891-1977 ft. tested est 25,000 ft. gas 2108-2113 ft. coring 2612 ft. lime and shale. Stewart Oil Co.'s Fee 1, se ne se 31-12-23, owdd.

LA FAYETTE COUNTY — A. M. Neely's Meek 1, ne nw 35-19-25, sd 800 ft.

MILLER COUNTY—Joiner et al's (Odell Hinson), Montana Realty Co. 1, ne nw nw 3-17-28, elev 225 ft. 7-in. csg 5270 ft. tested sw, at 5278 ft. fsg td 5325 ft. C. V. Lenz's Dale 7, 24-15-26, 1-in. csg 4208 ft. arr standardize, HFO, td 4216 ft. J. T. Parks et al's Dean et al 1, sw se 24-15-26, (1800 ft. s of Lenz test), cored shale so 4225-37 ft. sd td 4239 ft. shale.

POPE COUNTY—Ark. La Gas Co.'s L. C. Smith 1, sw sw se 10-8n-21w, 13⅜ in. csg 1997 ft. dr 3665 ft.

PULASKI COUNTY—A. L. Kitselman's Fee 1, 2-1s-13w, sd 792 ft.

UNION COUNTY—Phillips Pet. Co.'s Morgan 1, c s½ 18-18-17, owdd, td 4270 ft.

## CALIFORNIA

CANTUA CREEK—Mohawk Pet Co.'s Langer 1, 30-16-15, td 6935, abn. Dec. 14. Western Gulf Oil Co.'s S. P. Land Co. 1, 3-17-15, td 8531 ft., redr at 7810 ft.

### KERN COUNTY

LERDO—Arkelo Pet. Co.'s Arkelo 1, 23-28-26, dr hard shale oil on ditch 7015 ft.

RIO BRAVO—Associated's K. C. L. 1, 30-29-25, td 7683 ft., wocs 8⅝ in. at 7358 ft.

LOST HILLS—Associated's Elliott 8, No. A-3, 11-26-20, spud Dec. 14, dr; Williamson 12-A-3, 11-26-20, sd. Lincoln Pet. Co.'s No. 1, 12-26-20, td 1846 ft, plug 1140 ft, bailing; Theta 2, 12-26-20, sd 2830 ft. Standard's K. C. 11-1, 19-29-26, td 7807 ft, set 9⅝ in. at 7740 ft, ran formation tester, to test; United 2, 2-26-20, dr shale 1420 ft. Texas Co.'s Theta 1, 11-26-20, td 2037 ft, plug 1958 ft, pumping 323 bbls, 2 per cent oil.

SO. MARICOPA—E. A. Bender's Robinson 1, 14-10-23, td 1235 ft, plug 750 ft, pumping, oil sand and water. Trans-Line Pet. Corp.'s No. 1, 3-10-23, dr hard shale 362 ft.

GREENFIELD — British American's Smith 1-A, 21-31-27, td 1128 ft, wocs 20 in. on bottom.

SAN EMIDIO—I. L. Burch's No. 1, 3-10-23, td 2460 ft, wocs 8⅝ in. at 1460 ft.

MOUNT POSO—Calcoast Oil Co.'s No. 1, 36-26-27, dr gray sand 2655 ft.

WASCO—Continental Oil Co.'s K. C. L. A-1, 8-27-24, td 6503 ft, wocs 9⅝ in. at 3353 ft.

DEVIL'S DEN—Den Pet. Co.'s Bates 1, 20-25-19, dr brown shale 2110 ft. H. C. & E. A. Long's No. 1, 20-25-19, dr hard shale 715 ft. Lube Oil Co.'s No. 1, 2-25-18, dr hard shell 1120 ft.

JASMINE—Doyle Pet. Corp.'s Quinn 1, 15-25-27, td 2956 ft, plug 2882 ft, pumping 60 bbls gross, 70 percent water.

EDISON—East Edison Oil Co.'s Tejon 1, 21-30-30, td 1044 ft, to dr deeper; No. 2, 22-30-30, lcn.

**ABBREVIATIONS**

The following abbreviations, signs, etc., are used in completions and wildcat reports in THE OIL WEEKLY.

| | |
|---|---|
| *—*dry hole abandoned well.* | owdd—*old well drilling deeper* |
| ‡—*salt water (completions).* | owpb—*old well plugging back.* |
| †—*junked and abandoned.* | pb—*plugged back or plugging back.* |
| ¶—*million feet of gas.* | r—*reaming.* |
| abd—*abandoned.* | rog—*rig on the ground.* |
| bbls—*barrels.* | rur—*rigging up rotary tools.* |
| br—*building rig.* | rust—*rigging up standard tools.* |
| b.s.—*basic sediment.* | sd—*shut down.* |
| csg—*casing.* | sdtr—*sidetracking.* |
| co—*cleaning out.* | sg—*show gas.* |
| dd—*drilling deeper.* | si—*shut in.* |
| dk—*derrick.* | so—*show oil.* |
| dr—*drilling.* | so&g—*show oil and gas.* |
| fsg—*fishing.* | spd—*spudding.* |
| ft—*feet.* | sr—*straight reaming.* |
| hfw—*hole full of water.* | sw—*salt water.* |
| in—*inches.* | td—*total depth.* |
| lcn—*location.* | ur—*underreaming.* |
| m—*milling.* | wih—*water in the hole.* |
| mim—*moving in materials.* | wo—*workover.* |
| mit—*moving in tools.* | wocs—*waiting on cement to set.* |
| mot—*milling on tools.* | wosr—*waiting on standard rig.* |
| n, s, e, w—*north, south, east, west.* | |
| oih—*oil in hole.* | |

ARVIN—General Pet. Corp.'s Arvin 1, 26-31-29, td 7462 ft, recemented 8⅝ in. at 6570 ft. Superior Oil Co.'s No. 1, 26-31-29, foundation.

GRAPEVINE—Hall-Baker Co.'s Tejon 1-10, 12-10-19, td 2408 ft, to test zone 1907 to 1972 ft. 99 Oil Co.'s Tejon 1, 5-10-10, dr sand and boulders 656 ft. Ohio Oil Co.'s Title Ins & Trust D-1, 21-11-19, td 5919 ft, running formation tester. Reserve Oil & Gas Co.'s Ritchie 33-1, 33-11-19, td 6030 ft, plug 4990 ft, sd; Tejon 33-2, 33-11-19, td 4505 ft, plug 4414 ft, sd; Tejon 33-3, 33-11-19, dr hard sand 1560 ft.

MOUNTAIN VIEW — Mohawk Pet. Co.'s Earl Fruit 2, 10-31-29, td 6164 ft, ran tubing, tested on pump, 150 bbls, half mud, to brail; Earl Fruit 3, 4-31-29, dr sand and boulders 656 ft. Shell's Greer 1, 15-31-29, td 6171 ft, plug 6148 ft, gun perforated 6050 to 6055 ft, swabbed salt water, sd.

KERN FRONT—Seskayden Oil Co.'s Sesnon 2, 17-28-27, td 2920 ft, tested 150 bbls 15.2 gravity oil, cut 6 percent; No. S-A, 17-28-27, lcn.

### MISCELLANEOUS

HUMBOLDT COUNTY—Texas Co.'s Eureka 2, 22-3-1, dr Pliocene shale 7090 ft.

KINGS COUNTY—Associated's Avenal 2, 35-23-17, dr shale 484 ft. A. S. Clare's Laymance 1, 20-20-22, rig.

SAN BENITO COUNTY—Associated's Murphy Ranch 1, 5-12-4, td 4784 ft, plug 3909 ft, redr at 4189 ft.

SAN JOAQUIN COUNTY—Standard's Tilden Com. 1, 31-2-5, grading roads.

SOLANO COUNTY—Amerada Pet. Corp.'s Hamilton 1, 26-4-2, td 6792 ft, plug 5593 ft, running formation tester; Hoppe 1, 22-4-2, sd 7029 ft; Serpa 1, 23-4-2, rur.

TULARE COUNTY — J. W. Alford's Williams 1, 28-16-23, sd 1023 ft; R. R. Ellis' Ellis 1, 20-24-23, rig. E. P. Jennings' No. 1, 4-24-23, co, td 2820 ft. Seaboard Oil Corp.'s Security 1, 16-23-26, rur. Trico Oil & Gas Co.'s Calif. Western 1, 2-23-23, sd 1800 ft; Callison 1, 27-21-25, sd 3377 ft.

MONTEREY COUNTY—Amil A. Anderson's No. 1 (Cholame) 15-24-14, rur Shell's Branch 2 (WEST PLEYTO), 34-24-10, td 5115 ft, fsh. Texas Co.'s Dunphy 1 (Monroe Canyon) 30-19-7, spud Dec. 11, dr.

SAN LUIS OBISPO COUNTY — Aviation Oil Co.'s Brintnall 1, 10-11-33, dr shale 988 ft, tar sand at 931 ft. Cholame Syn's Jack 2, 10-25-15, td 3648 ft, trying to locate water. A. T. Jergins Trusts' Indian Knob 1, 26-31-12, dr 1447 ft in o. s. top at 1435 ft. R. W. McBurney's No. 1, 23-32-22, td 2150 ft, pumping water trace of oil. Union's Porter 1, dr hard shale 3837 ft. United Foreign Oil Co.'s Panorama 2, 2-32-21, dr hard sand 2411 ft.

### SANTA BARBARA COUNTY

EL CAPITAN—Associated's Edwards Estate 1, 2-4-30, td 2450 ft, 8⅝ in. at 2365 ft, perforated 2175 to 2300 ft, bailing.

SUMMERLAND—Julias Dietzman's Fithian 1, 8-4-25, sd 1025 ft.

GATO RIDGE—O. C. Fields Gaso. Corp.'s Continental 1, 4-8-32, bldg rig. Ben Moyle's Arrata 1, 9-8-32, foundation. Petrol Corp.'s Tognazzini 1-A, 9-8-32, wocs 13⅜ in. at 150 ft, bottom. Todos Santos McLoney 1, 4-8-32, sd 50 ft.

LOPOC — O. C. Field's Santa Rita 1, 11-7-33, td 2064 ft, to resume dr. Top Row Oil Co.'s Spanne 1, 6-35, sd 1310 ft.

CASMALIA—Golden Bear Oil Co.'s No. 1, 20-9-34, rig. Valley Oil Co.'s Chief 1, 20-9-34, lcn. Todos Santos Oil Co.'s No. 1, 29-9-34, td 2365 ft, plug 1705 ft, sd.

BETTERAVIA—E. H. Moore's Union Sugar A-1, 25-10-35, td 8020 ft. fsh.

POINT CONCEPTION—101 Oil Co.'s Hollister 1, 35-5-33, sd 358 ft.

SANTA MARIA—W. D. Shaffer's Honk 1, 9-9-33, dr shale 1641 ft, top of Foxen formation at 1591 ft.

### VENTURA COUNTY

OXNARD — Vaca Oil Explor. Co.'s Calif Lands 1, 6-1-21, td 2830 ft, plug 2150 ft, fsh tubing.

VENTURA—Ventura Explor. Co.'s Senton 1, 30-3-22, sd 9525 ft.

### SOUTHERN CALIFORNIA

NEWHALL — Barnsdall Oil Co.'s Rancho S. F. 1, 26-4-17, dr brown shale 6160 ft. Holbrook Pet. Co.'s Newhall L & F Co. 1, 28-4-16, sd 4025 ft.

LYNWOOD—Calizoo Oil Co.'s Saulque 1, 9-3-13, td 3995 ft, dr pipe stuck, circulating oil.

LOS ALAMITOS—Calmont Oil Co.'s Montana 1, 14-4-12, lcn.

WHITTIER—N. H. Clayton's No. 1, 22-2-11, td 830 ft, in shale, running tubing to test on pump.

NO. LONG BEACH—Geo. L. Clayton's No. 1, 32-3-12, dr hard shale 1690 ft.

FOX HILLS—Country Club Oil Co.'s Country Club 1, grading lcn. Superior Oil Co.'s Inglewood Ext. 1, 25-2-15, dr shale 9486 ft.

EAST WHITTIER—Drillers Inc.'s No. 1, 22-2-11, rur.

CLEARWATER—H. Heide's Rogers 1, 20-3-12, rur.

MONTEBELLO—Honolulu Oil Corp.'s Core Hole 1, 14-2-12, dr shale 1960 ft.

PUENTE—Honolulu Oil Corp.'s Butler 1, 15-2-10, rur.

WALNUT—Julian & Criswell's Langstaff 1, 5-2-9, dr brown shale streaks shell, 890 ft.

ASCOT SPEEDWAY — Republic Pet. Co.'s Jordan 1, 24-1-13, td 1567 ft, plug 1468 ft, abn.

ROSECRANS—Shell's McKinley 4-1, 20-3-13, dr sand and shale 4028 ft.

HAWTHORNE — Signal Finance Corp.'s Woods 1, 10-3-14, td 9326 ft, landed 2225 ft, 4¾ in. liner, all perforated, swabbing all water.

ROSECRANS—Shell's McKinley 4-1, 20-3-31, dr sand and shale 4028 ft.

GARDENA—Standard's Bodger 1, 22-3-14, td 7891 ft, coring, running formation tester on all sand bodies. Universal Cons. Oil Co.'s Carrell 1, 36-3-14, dr sand and shale 6524 ft.

DAVIDSON CITY — Cornelius G. Willis' Flood Control 1, 11-4-13, td 4307 ft, redr. at 3970 ft.

ORANGE COUNTY—Calif. Eastern Oil Co.'s Verde 1, 31-3-9, sd 4750 ft. Mesa Oil Co.'s Mesa 1, 29-6-10, (Newport) dr hard shale streaks sand 4011 ft. West Coast Ref. Co.'s Yorba 1, 25-3-9 (East Richfield) td 2725 ft, plug 2200 ft, to redr. directed hole.

SAN BERNARDINO COUNTY — Equitable Pet. Explor. Co.'s No. 1, 11-10-5, td 3032 ft, plug 2300 ft, to test. Tehama Pet. Co.'s Kraemer-Backs 2, 33-2-8, dr hard shale 1260 ft; Pellissier 1, 4-3-8, td 1312 ft, rig burned.

## KANSAS

BARBER COUNTY—Sinclair Prairie Oil Co.'s Gentry 1, ne ne ne 1-33s-15w, 1800 ft wih, 1½ hrs. Pure Oil Co.'s Palmer 1, se ne sw 10-33s-10w, dr 4204 ft.

BARTON COUNTY—C. L. Price's Deutsch 1, nw nw ne 16-16s-13w, 300 ft oih, p 63 bbls oil 1 hr. Minnehoma O&G Co.'s Smith 1, nw nw ne 20-18s-13w, run 8-in csg. Duee & Brouk's Baker 1, ne se sw 16-17s-13w, dr 1310 ft. Freehorn et al's Sooy 1, nw nw ne 27-18s-12w, sd 200 ft. John Burton's Wendel 1, ne ne ne 13-19s-11w, woc 2590 ft. I. T. I. O. Co.'s Schrepel 1, se se ne 26-20s-11w, dr 210 ft. Armer & Vernon O&G Co.'s Ainsworth 1, ne ne se 33-16s-13w, 3200 ft oih, no test. D. R. Buchanan

et al's J. Schartz, Jr., 1, nw nw ne 20-19s-11w, rur.

BUTLER COUNTY—Wixon et al's Coulter 1, nw sw ne 3-27s-7e, dr 1660 ft. Cox & McGinnis' Faulders 1, sw sw ne 27-25s-3e, mi mach.

CHASE COUNTY—Hanna et al's Brothers 1, se se nw 25-20s-8w, rig. Propp et al's Fromm 1, se se se 29-18s-9e, fsg 2440 ft.

COWLEY COUNTY—Home Natural Gas Co. & McNish' Werner 2, se se sw 31-32s-6e, 2,000,000 ft gas and sw. Tom Palmer's Pierce 1, se se sw 14-31s-3e, dr 2900 ft. Austin & McKnabb's Wilson 1, ne ne se 20-32s-6e, dr 1795 ft. C. H. Cross' Cook 1, sw sw sw 6-32s-6e, ur 10-in csg 1503 ft. Simpson Oil Co. and Stanolind O&G Co.'s Weigle 1, sw sw ne 18-31s-6e, dr 365 ft.

DECATUR COUNTY—Winkler & Koch's Vessey 1, cnw se 26-3s-26w, sd 2135 ft.

EDWARDS COUNTY — Stanolind & Elwell's Donovan 1, cse se 14-25s-18w, testing.

ELK COUNTY—Diller O&G Co.'s Key 1-B, sw sw nw 25-31s-10e, td 2255 ft, est 1000 bbls oil daily, comp.

ELLIS COUNTY—Empire's Samuelson 1, ne ne se 31-11s-16w, ur 5-in csg. Ted Kerr et al's Koblitz 1, se sw nw 23-12s-18w, 1600 ft oih 16 hrs. Glick & McMorrow's Staab 1, sw sw se 6-13s-17w, dr 3520 ft. Taylor et al's Emery 1, ne ne ne 23-14s-18w, set 6-in csg 3291 ft. Murphy Oil Co.'s Wiesner 1, se se sw 12-14s-19w, fsg 1275 ft. Jones Bros. et al's Phillips 1, se se nw 9-15s-17w, dr 2760 ft. Lario O&G Co.'s Cress 1, ne ne ne 13-11s-17w, ur 8-in csg 2537 ft. Loomis & Eytner's O'Laughlin 1, se se nw 27-13s-18w, rot rig.

ELLSWORTH COUNTY—Empire's Brown 1, se se nw 1-17s-9w, dr 1480 ft.

GRANT COUNTY—Columbian Fuel Co.'s Gray 1, cse 3-29s-25w, co.

GREENWOOD COUNTY — Scott et al's Pedroja 1, se ne se 6-26s-10e, P 50 bbls oil 36 hrs. Holis et al's Boone 1, ne ne nw 21-26s-12e, ser 10-in csg 490 ft. Ohio's Schwab 1, se sw se 9-24s-10e, lcn.

HARVEY COUNTY—Harburney Oil Co.'s Schragg 1, nw nw se 24-22s-3w, sd 3350 ft. Saco et al's Guthrie 1, ne ne nw 8-22s-2e, dr 2465 ft.

KEARNEY COUNTY—J. L. Murphy et al's Campbell 1, nw nw sw 32-25s-35w, td 2595 ft, 1,400,000 gas.

LOGAN COUNTY—Rosespring Drlg. Co.'s Wright 1, cse se 12-15s-35w, woc 3850 ft.

LYON COUNTY—Clyde Fred et al's Bruce 1, nw nw nw 13-18s-10w, dr 1305 ft.

MARION COUNTY—Western Kansas O&R Co.'s Hauser 1, sw sw sw 19-19s-4e, set 6-in csg 2358 ft.

MITCHELL COUNTY—Geo. Siedhoff et al's Greiss 1, sw sw se 16-8s-10w, dr 1500 ft.

NESS COUNTY—Newton Dev. Co.'s Tenny 1, nw nw se 19-18s-25w, sd 2450 ft.

PAWNEE COUNTY—Kessler & Their et al's Wallace 1, se se nw 16-23s-15w, rur.

PRATT COUNTY—H. V. Elwell et al's Fay 1, nw nw se 15-27s-14w, fsg 3500 ft.

RENO COUNTY—Miller et al's Detter 1, ne se nw 28-22s-7w, td 3294 ft, D&A. Foraker et al's Hiett 1, se sw ne 34-24s-4w, woc 2722 ft. Clyde Pulse et al's Payne 1, sw nw ne 4-22s-7w, sd 1955 ft. Inca Prod. Corp.'s Moore 1, cne ne 26-24s-3w, sd 2860 ft. Empire's Schrock 1, nw nw ne 22-24s-5w, dr 1914 ft. Westgate-Greenland Oil Co.'s Fossey 1, sw sw se 12-22s-8w, dr 3755 ft. W. E. Witt et al's Wright 1, se ne ne 9-23s-8w, cel. Helmerich & Payne et al's Stewart 1, se se se ne 16-24s-6w, bldg rot rig.

RICE COUNTY—Carlock et al's Deweese 1, sw nw nw 32-20s-7w, sdo. Shell Pet. Corp.'s Soenken 1-A, cnw 10-19s-9w, est sw ½ bbls oil per hr and sw. Aylward et al's Johnson 1, nw nw ne, td 3390 ft, F 635 bbls oil 4 hrs. I. T. I. O. Co.'s Fossey 1, sw sw ne 31-20s-10w, set 10-in csg 1815 ft. Charles Pet. Corp.'s Speck 1, nw nw se 29-20s-8w, dr 3480 ft. Permian Oil Co.'s Monroe 1, cne ne 9-20s-7w, woc. Dickey Oil Co.'s Brothers 1, se se se 1-21s-7w, set 12-in csg 107 ft.

ROOKS COUNTY—L. C. D. Drlg. Co.'s Westhusin 1, cne se 11-19s-17w, testing. J. A. Shoemake's Stebbins 1, ne ne sw 26-7s-17w, testing. Buckner & Schoff's McConnell 1, ne ne ne 34-6s-18w, fsg 1765 ft. Empire's Ham 1, sw nw nw 24-8s-19w, ur 8-in cas 3268 ft. Snowden & McSweeney's Hindman 1, ce½ nw 35-7s-17w, rust. Graham et al's Fike 1, sw sw sw 9-9s-17w, rust 3220 ft.

RUSH COUNTY — Schoenfeld & Kitch' Winget 1, se se se 15-16s-16w, dr 2810 ft. H. M. Pigott et al's Maresch 1, cnw nw 28-19s-19w, mim.

RUSSELL COUNTY—Empire's Frederick 1, se se se 18-15s-11w, dr 2180 ft. Equity Gas Co.'s Harbauk 1, nw ne sw 19-13s-12w, set 10-in csg 780 ft. El Dorado Ref. Co.'s Scott 1, nw nw ne 17-13s-13w, dr 875 ft.

SALINE COUNTY—James Brouk et al's Tehlander 1, ne nw se 10-16s-13w, set 5-in csg 3290 ft, pb. Ryan Consolidated's Wuerth 1, sw sw nw 28-14s-2w, lcn.

SEDGWICK COUNTY—R. J. Wallace et al's Sheer 1, sw sw sw 22-27s-3w, td 4285 ft, D&A. Cameron et al's Smith 1, sw se se 13-27s-2e, spd and sd.

SEWARD COUNTY—Helmerich & Payne's Hyde 1, csw 14-31s-34w, td 2850 ft, D&A.

SHERIDAN COUNTY—O. A. Roberts et al's Corrick 1, cnw 34-9s-26w, dr 1047 ft.

STAFFORD COUNTY—Skelly's Kipp 1, se se ne 27-25s-14w, co 4125 ft. C. E. Skiles et al's Leidigh 1, nw nw sw 21-22s-11w, so 3585-91 ft. Empire's Jordan 1, sw sw nw 15-25s-14w, pot. p. 575 bbls oil and 2 percent water. Skiles et al's Hughes 1, sw sw sw 12-23s-12w, dr 1115 ft. Lebow et al's Wolf 1, se sw nw 3-21s-12w, dr 2073 ft. Stanolind O&G Co.'s Rosacker 1, sw sw ne 5-25s-11w, rur.

SUMNER COUNTY—Rosespring Drlg Co.'s Rutter 1-A, cnw nw 21-33s-2e, hfo. Empire's Hoffman 1, nw nw sw 27-34s-1e, dr 3290 ft. Graham et al's Dawson 1, nw nw nw 4-33s-2w, fsg 3585 ft. Lario et al's Hall 1, nw sw nw 11-35s-1e, dr 2015 ft. Lloyd, Frost, Study et al's Fee 1, se se se 31-34s-1e, dr 1194 ft. Orcott & Stewart's Newton 1, se se se 21-30s-2e, dr 730 ft. Wakefield & Mead Oil Co.'s Napp 1, sw sw nw 2-34s-5e, mim.

TREGO COUNTY—York State Oil Co.'s Gugler 1, sw sw sw 36-12s-21w, sdo. Black Gold Oil Co.'s Allman 1, csw sw 34-14s-21w, rot rig.

WOODSON COUNTY—Dwyer et al's Wolf 1, ne ne sw 9-24s-14e, td 1719 ft, D&A. Ross & Marshall's Bresner 1, sw sw se 6-26s-15e, mi mach. Reamer's Corn 1, ne ne ne 31-26s-15e, dr 1680 ft.

## NORTH LOUISIANA

BIENVILLE PARISH—Lide Greer et al's J. D. Smelley 1, se sw ne 13-16n-5w, 10-in csg 2660 ft, dr 4145 ft. DeSoto O&G Co.'s (R. O. Roy) Dunn & Olsen 1, n½ nw 15-16n-10w, elev 259 ft, massive anhydrite 3985-4217 ft, base stringer 4276-4301 ft, tested 5 mil ft gas in oolitic lime 5200-5236 ft, 7-in csg 5200 ft, woc, td 5236 ft. Texas-Seaboard's McGee 1, 3-16n-6w, dr 6578 ft.

BOSSIER PARISH — Ark.-La. Gas Co.'s Davis 1, 8-17n-11w, dr 3708 ft; Potter 1, 8-17n-11w, dr 2685 ft. United's Freedman 1, 15-17n-12w, rur. La. Pet. Corp.'s Edwards Est. 1, 5-17n-11w, rur. Triangle Drlg. Co.'s S. H. Bolinger 1, 36-23n-12w, rur. Skannal I-1, 22-17n-12w, rur.

CADDO PARISH—Ferguson et al's Huckabay 1, 22-22n-16w, dk. Gulf's E. P. Hatcher 1, 11-17n-15w, elev 269 ft, top Travis Peak 5998 ft, dr 7815 ft shale. R. W. Norton's Payne 1, se se 27-23n-16w, 9⅝ in csg 6200 ft, dr 6450 ft (10,000 ft test).

CLAIBORNE PARISH—E. T. Oakes & H. D. Easton et al's Patton Est. 2, ne ne 1-20n-5w, elev 357 ft, 7-in csg 5007 ft, cored oolitic lime (basal Glen Rose) so&sg 5359-79 ft, ran electrical tester, cemtd 5 3/16-in csg 5305 ft, washed and flowed 37.99 gravity oil by heads for 3 days, swabbed and well flowing by heads, td 5379 ft. United's Rufus Sims 1, nw sw nw 22-20n-5w, spd. Max Hirsch et al's C. O. Ferguson 1, nw sw 29-22n-6w, 16-in csg 275 ft, dr 3220 ft.

CATAHOULA PARISH—Balcones Oil Co.'s T. J. Chisum 1, 19-10n-8e, rur. Matheny & Schumacher's W. S. Peck 1, 40-10n-8e, mim.

DE SOTO PARISH—Sundby et al's Garland 1, se nw 7-14n-14w, elev 300 ft, base Annona chalk 2095 ft, top Tokio 2592 ft, top Washita 2690 ft, sd 2876 ft. Julian-Igoe Synd.'s Hallie Smith 1, se se 31-14n-15w, lcn. Grogan Oil Co.'s Ramsey 1, 36-11n-11w, arr deepen, td 1780 ft. Sanders et al's L. N. Allison 1, nec 17-14n-13w, mir. Chamberlin et al's Lanier 1, 29-11n-11w, dk. Grady Vaughan et al's Sample 1, 24-11n-14w, dr 2605 ft.

NATCHITOCHES PARISH — Natchitoches Oil Co.'s J. S. Simpson 1, 12-7n-7w, sd 1350 ft. Jack Lent et al's Locke 1, se sw 26-9n-9w, sd 30 ft. Robt. Keen's Moffitt 1, ne sw 19-10n-10w, rur.

RED RIVER PARISH — Hunter et al's Long-Bell Lbr. Co. 1, ne ne 19-13n-9w, sdtr, tested so and mud 3720-23 ft, set 5 3/16 in csg at 3720 ft, old td 3734 ft.

RICHLAND PARISH—Gulf's R. R. Rhymes 15, nw se ne 32-17n-6e, elev 87 ft, top anhydrite 2936 ft, base red beds 6380 ft, 7-in csg 8040 ft, dr 8420 ft shale.

SABINE PARISH — Earl F. Fox's L. B. Blankenship 1, 13-9n-12w, rur. Whitehurst et al's Whitney Corp. 1, c nw ne 8-9n-13w, made gas heads, si, old td 5503 ft. A. C. Scott's Bowman-Hicks 1, nw sw 23-9n-13w, owdd, td 2020 ft.

WEBSTER PARISH—Ohio Oil Co.'s Bodcaw Lbr. Co. 1, c ne se 28-21n-10w, elev 234.8 ft, top massive anhydrite 4225 ft, base stringer 4546 ft, dr 8047 ft. R. M. Coyle 1, c ne se 22-21n-10w, elev 215.8 ft, massive anhydrite 4119-4359 ft, dr 7720 ft. United's Mixon 1, 22-21n-10w, elev 230 ft, top massive anhydrite 4195 ft, top Travis Peak 5585 ft, dr 7395 ft; C. V. Davis 2, c nw nw 23-21n-10w, dr 7411 ft. Magnolia Pet. Co.'s Cox 1, 23-21n-10w, 9⅝ in csg 6477 ft, fsg 7530 ft. Woodley Pet. Co.'s L. C. Cox B-2, sw ne 22-21n-10w, elev 229 ft, top massive anhydrite 4144 ft, flowing est 125 bbls distillate and 7 to 8 mil ft gas through tub choke, td 5557 ft (Travis Peak). Tidewater Oil Co.'s L. Pipes 1, 10-18n-10w, top Nacatosh 1535 ft, base chalk 2075 ft, top Blossom 2232 ft, top red beds 3167 ft, 9⅝ in csg 3627 ft. Standard of La.'s Fudicker 1, se nw nw 2-17n-9w, elev 237 ft, top first anhydrite 4707 ft, dr 5310 ft. Red Hawk Oil Co.'s Baker 1, 9-22n-9w, dr 2215 ft.

WINN PARISH—C. W. Cline's Collingsworth Hrs. 1, se se 14-10n-6w, dk and mir.

## SOUTH LOUISIANA

ACADIA PARISH—Humble's Nordyke 1, Ebenezer prospect, 23-10s-1e, dr shale 5009 ft. Superior's Savoie 1, Bayou Mallet field, 47-7s-1e, dr sand and shale 6009 ft.

CALCASIEU PARISH — Union Sulphur's Irwin 1, se of Lake Charles, 10-10s-8w, dr shale and lime 8309 ft.

CAMERON PARISH—Pure's Mallard Bay 1, Mallard Bay prospect, 22-13s-3w, dr hard brittle shale 7869 ft.

EAST BATON ROUGE PARISH—Louisiana Crusaders Oil Co.'s L. S. U. 1, University Block, 67-7s-1w, reaming 6625 ft.

IBERIA PARISH—Texas Co.'s Fausse Point 2, Fausse Point prospect, 35-11s-8e, dr shale 6616 ft; same operator's State Vermilion Bay 1, in Vermilion Bay, 16s-5e, dr shale 9871 ft.

JEFFERSON PARISH—Triangle Oil Co.'s Carroll 1, 125-12s-11e, sd 1903 ft.

JEFFERSON DAVIS PARISH — Shell's Sturdevant 1, South Roanoke prospect, 25-10s-4w, fsh 9749 ft.

LA FOURCHE PARISH—Wm. Helis's City of New Orleans 1, Marchland prospect, 19-23s-23e, cutting and pulling 5725 ft. Pan American's Harange 1, Valentine prospect, 7-17s-20e, woc 6974 ft.

ST. BERNARD PARISH—Gulf's Lake Lery 1, Lake Lery prospect, 28-14s-14e, dr shale 3020 ft. Southern Sulphur Co.'s State 2, in Lake Borgne, 38-14s-15e, dr sand and gravel 1420 ft.

ST. JAMES PARISH—Shell's Colonial Sugar 2, Hester prospect, 5-12s-5e, abn 8422 ft.

ST. LANDRY PARISH—Superior's A. Savoie 1, ne of Bosco, 26-8s-3e, comp 41 bbls 15 hrs 5320 ft.

ST. MARTIN PARISH—Shell's Hefea Land Co. 1, Gecho or Arnaudville prospect, 38-8s-5e, dr shale 8109 ft.

ST. MARY PARISH—Texas Co.'s Bayou Sale 1, Wax Lake prospect, 40-17s-9e, dr shale 9413 ft.

TERREBONNE PARISH—Humble's Elender 1, Houma Gas field, 23-19s-19e, fsh 8757 ft, Shell's Realty Operators 1-B, 11 w of Houma, 18-18s-15e, dr shale 5271 ft.

VERMILION PARISH—Continental's Hebert 1, Abbeville prospect, 20-12s-3e, setting five-in csg 12,216 ft.

Stanolind's Fred Stovall 1, South Abbeville prospect or Inter-coastal prospect, 89-14s-3e, sd for fuel 10,212 ft.

## MISSISSIPPI

BOLIVAR COUNTY—White & Jones' Ballou 1, ne ne 18-24n-7w, arr deepen 1680 ft.

CLAIBORNE COUNTY — Claiborne O&G Drlg. Co.'s Crawford 1, 6-13n-4e, elev 115 ft. sd 2005 ft. Claiborne County Dev. Co.'s Ruth Hayden 1, 56-11n-2e, lcn.

HINDS COUNTY—Chichester et al's Gerwin 1, sw nw 12-5n-4w, dr 1612 ft. State of Mississippi's Fee 2, nw nw 25-6n-1e, elev 326.5 ft. cored sand 2881-88 ft. ran electrical tester.

KEMPER COUNTY—R. A. Keaton et al's Buckwalter Lbr. Co. 1, nec 6-10n-14e, dk.

LAMAR COUNTY—Sun's Scanlan & Semmes 1, c sw ne 28-4n-15w, elev 317 ft. 9⅝ in. csg 1623 ft. sd 2177 ft.

PERRY COUNTY—Fred E. Courson Newman Lbr. Co. 2, se sw sw 2-2n-10w, spd woc 10-in. surf csg.

## MONTANA

CARBON COUNTY — Bailey-Round Butte Oil Co.'s 2, sw ne se 3-6s-23e, dr 1160 ft. East Bridger Oil & Gas Co.'s 1, csl se se 23-6s-23e, dr 1565 ft.

FERGUS COUNTY—Emmons et al's Government 3, se ne ne 6-21n-18e, dr 2001 ft. Emmons' Government 4, sw sw sw 3-21n-18e, dr 445 ft. Judith Operating Co.'s Government 2, cwl nw ne 35-22n-17e, dr 3196 ft.

PARK COUNTY—Ben Ryan's Burgess 1, se sw nw 28-28n-11e, dr 531 ft.

PETROLEUM COUNTY—H. Clark Rowland et al's Kalispell 1, ne ne se 31-14n-25e, dr 630 ft.

PHILLIPS COUNTY—R. G. Parrant's Hartman 1, cnw se 12-24n-25e, dr 661 ft.

PONDERA COUNTY — Klinch Petroleum Co.'s Hollam 1, nw nw nw 21-28n-6w, dr 2250 ft.

VALIER COUNTY—Gordon Campbell et al's Hughes 1, ne ne nw 12-30n-4w, dr 2494 ft in Ellis-Madison contact with slight sg.

## NEBRASKA

FRANKLIN COUNTY — William Stienle's 1, se ne se 25-1n-15w, dr 402 ft.

LINCOLN COUNTY—Smith & Wright's Hanson 1, 24-15n-30w, ru to spud after completing 2 water wells.

SIOUX COUNTY—J. M. Huber Corporation's Morgan 1, cnw sw 32-35n-56w, dr 2480 ft.

## NEW MEXICO

LEA COUNTY—Anderson-Prichard Production Corp.'s C. M. Carlson 2, c sw nw 21-25s-37e, elev 3072 ft, dr 1900 ft. Argo Royalty Co.'s B. T. Lanehart 1, sw se ne 21-25s-37e, elev 3071 ft, hfw 3772-3782 ft, pb 3572 ft, est 4,000,000 ft gas, testing. Baldridge et al's Blakey 1, c nw ne 5-20s-38e, elev 3586 ft, base salt 2660 ft, rust, td 2815 ft. Brown & Reynolds' Parcell 1, c nw se 8-21s-38e, elev 3573 ft, base salt 2820 ft, showing heavy gas volume, fsh 2 strings tools, td 3150 ft. Carlock et al's Quincy-Ricker 1, c se se 7-16s-36e, elev 3945 ft, top anhydrite 1975 ft, dr 3630 ft. Amon G. Carter et al's E. M. Elliott 1, c nw nw 22-22s-37e, elev 3374 ft, dr 2900 ft; Elliott 2, c ne nw 22-22s-37e, elev 3375 ft, sd 1390 ft. C. & G. Oil Co.-The Texas Co.'s Ellen Weir 1, c ne ne 14-20s-37e, elev 3564 ft, td 4074 ft, swabbed 48 bbls fluid, 12 percent bs&w, 8 hrs, testing. J. C. Clower et al's W. H. Turner 1, c se se 29-21s-37e, elev 3469 ft, cem 7-in cas 3496 ft. Barney Cockburn & Rowen-Nichols Oil Co.'s H. G. Mattern 1, c sw se 7-22s-37e, elev 3426 ft, td 3789 ft, sdo. Conoco & The California Co.'s Ira C. Forney 1-A-5, c sw se 5-23s-36e, elev 3457 ft, top anhydrite 1435 ft, base salt 3260 ft, top Yates sand 3420 ft, showed 1080 ft oil in drill pipe in 14 min when tester used in lime at 3704-60 ft, cem 7-in cas 3694 ft, testing; Rex Williams 1-A-27, c sw sw 27-23s-35e, elev 3428 ft, top anhydrite 1530 ft, dr 4090 ft. Culbertson, Erwin & Stovall's J. R. Stuart-Repollo 2, nw se se 10-25s-37e, elev 3108 ft, fsh 3277 ft; Stuart-Repollo 3, ne se sw 10-25s-37e, elev 3111 ft, machine. Devonian Oil Co.'s A. L. Christmas 1, ne ne se 28-22s-37e, elev 3339 ft, dr 3230 ft. Empire O. & R. Co.'s R. L. Brunson 1, nw nw se 4-22s-37e, elev 3446 ft, top anhydrite 1140 ft, dr 2450 ft; Anna Walden 1, c se nw 21-22s-37e, elev 3352 ft, flows by heads, testing 3582 ft. A. R. Eppenauer et al's F. B. Stuart-Amerada 1, ne ne ne 22-25s-37e, elev 3082 ft, top anhydrite 1000 ft, top salt 1200 ft, sd 2075 ft. J. E. Farrell & Co.'s E. W. Walden-Amerada 1-A, c sw nw 15-22s-37e, elev 3407 ft, dr 3330 ft; Walden-Amerada 1-C, c sw sw 15-22s-37e, elev 3385 ft, show o & g, dr 3495 ft. Geo. F. Getty Oil Co.'s D. C. Hardy 2, c sw se 20-21s-37e, dr 3600 ft; Etz-Conoco 1, c ne ne 12-21s-32e, fsh bailer 1015 ft. Harry W. Leonard et al's B. T. Lanehart 3, c ne nw 21-25s-37e, elev 3081 ft, lcn. Magnolia's E. O. Carson 3, c sw sw 28-21s-37e, elev 3467 ft, dr lime 3630 ft; State 1-G, nw nw ne 24-17s-34e, elev 4019 ft, top anhydrite 1700 ft, dr 3390 ft. Maljamar O. & G. Corp.'s Baish 7, c se nw 21-17s-32e, elev 4046 ft, shot 10 qts nitro 2350-2355 ft, est 75 bbls daily; Baish 8, c sw ne 21-17s-32e, lcn. Joe C. Maxwell, R. Crandall & C. H. Osmond's State-Lane 1, c sw nw 32-10s-34e, elev 4205 ft, top anhydrite 2060 ft, base salt 2750 ft, dr 4030 ft. Plains Prod. Co. et al's Knight-Humble 3, c se se 21-24s-37e, elev 3218 ft, cem 7-in cas 3218 ft, dr 3280 ft; Knight-Humble 4, c sw sw 22-24s-37e, elev 3225 ft, mim. Repollo Oil Co.'s O. J. Boyd 2, nw nw nw 23-22s-37e, elev 3338 ft, shot 150 qts nitro 3595-3645 ft, flowing by heads; Robt. Jamison 2, sw sw nw 22-24s-37e, rust; A. M. York 1, se se ne 20-21s-37e, elev 3495 ft, flows 5 bbls oil, dr 3795 ft. Rushwold Oil Co.-Conoco & California Co.'s E. E. Carter 1, c nw ne 30-20s-39e, elev 3559 ft, top anhydrite 1616 ft, base salt 2805 ft, dr 3127 ft. Samedan Oil Corp.'s S. B. Hughes 2, c nw se 4-23s-37e, elev 3318 ft, dr 2800 ft. Shell Pet. Corp.'s State 1-T, c se ne 34-20s-35e, elev 3719 ft, dr 2050 ft. Skelly Oil Co.'s J. V. Baker 3, c ne nw 27-22s-37e, elev 3341 ft, dr 2815 ft; Hugh C. Sims 1-D, c se nw 3-23s-37e, elev 3300 ft ,show o & g, dr 3480 ft; R. R. Sims 2, c ne sw 3-23s-37e, elev 3298 ft, sd to rust, td 1196 ft; R. R. Sims 1-C, c se sw 3-23s-37e, elev 3297 ft, dr 3350 ft; W. P. Sims 1-B, c nw ne 10-23s-37e, elev 3296 ft, cem 7-in cas 3400 ft. W. H. Street et al's Wood-Humble 1, near c se ne 22-22s-37e, elev 3355 ft, running 8⅝-in cas, td 1174 ft. Sun Oil Co.'s I. R. Stuart 2, c sw ne 15-25s-37e, lcn. The Texas Co.'s Jas F. Black 1, c sw ne 21-24s-37e, elev 3225 ft, show gas 3385 ft and 3405 ft, dr 3415 ft; V. M. Henderson 1, se se ne 30-21s-37e, elev 3490 ft, dr 3430 ft. Tide Water Associated Oil Co.'s Coates 1-B, c nw nw 21-25s-37e, elev 3073 ft, td 3077 ft, tested 17,800,000 ft gas and 32 bbls oil daily, pb to 3050 ft to shoot upper pay.

ROOSEVELT COUNTY—Clovis Dev. Co.'s S. Smith 1, c se ne 17-2s-30e, dr 1015 ft. Franklin Oil Corp. et al's Rual Giphant 1, nw nw nw 28-3n-30e, elev 4458 ft, dr 3410 ft. Joe C. Maxwell, R. Crandall & C. H. Osmond's A. B. Williamson 1, c nw nw 7-8s-36e, dr 3900 ft.

## OKLAHOMA

ATOKA COUNTY—A. J. Sanders' Redden 3, se sw sw 19-1n-15e, woc.

CARTER COUNTY—Head & Straus' Simpson-Fell 1, nw nw se 8-5s-1e, sd 1464 ft.

CLEVELAND COUNTY — Helmerich & Payne's Glenn 1, cnw ne 6-8n-1w, dr 5553 ft.

COAL COUNTY—Continental's Kirby 1, sw se sw 23-1n-8e, dr 1700 ft. Continental's Breedlove 1, nw sw sw 24-1n-8e, dr 5380 ft. Continental's King 1, ne sw ne 26-1n-8e, pb 1400 ft, woc. Continental's Daniels 1, sw ne sw 27-1n-9e, dr 5835 ft. Carter's Warne 1, ne ne nw 31-2n-9e, dr 5452 ft. Shell's Hill 4-A, cnw 30-3n-10e, dr 5801 ft.

COMANCHE COUNTY—L. D. Wise et al's Cones 1, se se sw 11-1n-10w, sd 2156 ft. Frank Scott's Kuntz 1-A, cse ne se 21-4n-11w, dr 1705 ft. C. V. Morris' Young 1, se ne se 24-3n-10w, dr 470 ft.

COTTON COUNTY — Phillips Pet. Co.'s Warren 1, ne ne se 1-5s-13w, sdo 3296 ft. Grace-Wood Drlg. Co.'s Wilson 1, csw nw 17-4s-11w, sdo 4218 ft.

CREEK COUNTY—W. J. Sherry's Childers 1, sw sw nw 2-15n-7e, lcn.

GARFIELD COUNTY—Ohio's McFarland 1, se se se 25-24n-3w, dr 5075 ft. Arab Oil Co.'s Harkendorf 1, ne ne ne 34-20n-3w, dig pits.

GARVIN COUNTY—Ellison & Hammond's Selby 1, cnw nw 24-2n-3w, dr 5620 ft. Pure Oil Co.'s Baker 1, se se ne 7-2n-1e, td 5443 ft, D&A. Hayes Drlg. Co.'s Howell 1, cse nw 34-1n-1e, rig.

GRADY COUNTY—R. E. Johnson et al's Thomas 1, se sw se 18-5n-7w, mir.

GREER COUNTY—Nelf et al's Melton 1, cse nw se 16-3n-22w, to test. Bud Lewis et al's Webster 1, sw ne ne 7-7n-24w, dr 1550 ft.

HUGHES COUNTY—T. P. McAdams & Barnes' Koch 1, sw ne ne 1-9n-10e, sd. R. K. Ellison's Peters 1, se nw se 8-6n-10e, dr 3785 ft. Mid West Oil Co.'s Turner-Lucas 1, cse nw 13-9n-9e, dr 1564 ft. Carson Oil Co.'s Lyter 1, ne nw sw 31-8n-12e, lcn.

JACKSON COUNTY—Everett & Morgan's Dameron 1, cnw sw sw 34-3n-18w, sd 240 ft.

JEFFERSON COUNTY—Massad & Swansberger's Barrett 1, ne se se 14-6s-6w, dr 140 ft. Lake-O-Moore's Derr 1, nw nw se 13-5s-8w, mir tools.

KAY COUNTY—G. A. Brown et al's Harris 1-A, sw sw ne 14-25n-1e, br. Helmerich & Payne's Constant 1, sw sw ne 17-28n-2w, dr 1857 ft. Black Gold Oil Co.'s Cooley 2, sw sw se 25-28n-4e, lcn.

KIOWA COUNTY—Argus Pet. Co.'s Osbourne 1, nw nw ne 9-7n-16w, sd 1225 ft. Lykins et al's Aetna Life Ins. Co. 1-A, se se se 9-5n-16w, sd 851 ft. Nagel & Adam's Oster 1, sw ne sw 27-7n-17w, fsg 930 ft.

LINCOLN COUNTY — Mid-Continent Pet. Corp.'s Logan 1, ne ne se 31-11n-5e, rur.

LOGAN COUNTY—Anthony & Marshall's Fruin-Eckman 1, se se sw 4-16n-1e, co 4955 ft. Helmerich & Payne's Hasler 1, nw nw se 14-16n-4w, dr 5986 ft. Harry Blackstock's Prince 1, se ne sw 11-17n-3w, dig cel.

LOVE COUNTY—Sinclair Prairie's Stockton 1, se se sw 26-6s-2w, sw 45 bbls oil 24 hrs. Magnolia Pet. Co.'s Gardner 1, cne ne nw 34-6s-2e, td 2360 ft.

MARSHALL COUNTY—Stewart & Taylor's Chestnut 1, ne ne ne 23-8s-5e, dr 650 ft.

MURRAY COUNTY—Power Oil Co.'s Lancaster Trust Co. 1, csw ne 10-1s-2e, most 3203 ft. Russell's Fee 1, se nw se 9-2s-3e, sd 165 ft.

NOBLE COUNTY—Shell et al's Moelling 1, csw nw 31-21n-2w, est 80 to 100 bbls oil per hr and 10,000,000 gas, si for tanks. Darby et al's Aetna Life Ins. Co. 1, se se nw 1-23n-2w, sd 2795 ft.

OKFUSKEE COUNTY—Okla Oil Corp.'s Dawley 1, nw nw se 8-10n-9e, testing.

OSAGE COUNTY—Chavalier & Simon's No. 1, se se se 24-23n-9e, td 2309 ft, D&A. Norbla Oil Co.'s No. 1, ne ne se 13-23n-6e, mim.

PAYNE COUNTY—H. F. Young's Jenkins 1, se ne se 4-17n-3e, dig cel.

PITTSBURG COUNTY—Okla Dist. Co.'s Beeler 1, ne ne sw 7-7n-14w, dr 4461 ft.

PONTOTOC COUNTY—Ramsey Pet. Co.'s Johnson 1, nw sw se 9-3n-7e, dr 1492 ft. Delaney & Boettcher O&G Co.'s Alexander 2, sw ne sw 24-4n-7e, td 3770 ft. E. H. Moore et al's Muse 1, sw ne se 33-2n-7e, C&P.

SEMINOLE COUNTY — Riverland O&G Co.'s Goebelt 1-A, nw se se 12-6n-6e, td 2903 ft, D&A. R. M. Purcell's Gilliland 1, se se sw 24-11n-7e, lcn. H. E. Kennedy's Bowlegs 1, nw nw se 3-8n-7e, dr 480 ft. Carter Oil Co. et al's Simpson C-48, sw sw ne 7-8n-8e, lcn.

STEPHENS COUNTY—Ed Parson's Olson 1, csw sw 21-2n-8w, dr 6650 ft. Coline Oil Co.'s Johnson 1, csw se nw 1-2n-8w, dr 5378 ft. Edward's Frederick 1, ne se nw 31-2n-8w, dr 2482 ft. Jack Cohen's Pierce 1, cne nw 24-2s-6w, sd 268 ft.

TEXAS COUNTY — Allison & Barnhill's Bingley 1, sw sw ne 30-2n-18ecm, testing.

TILLMAN COUNTY — Eugene Skinner's Oliver 1, se se nw 22-1s-15w, fsg 1314 ft. I. T. I. O. Co.'s Drumm 1, csw nw 32-2s-17w, testing. Shirley Clum et al's Moriele 1, nw nw se 16-4s-14w, dr 2050 ft.

## EAST TEXAS

ANDERSON COUNTY—Tom F. Hunter, American Liberty Oil Co. et al's G. E. Cage 1, SEc of C. Bird Gilbert sur, Blackfoot structure, rig. Tide Water Associated-Seaboard Oil Corp.'s Monnig Bros. 7 (3806.82-ac), Simon Sanchez sur No. 1-11, Long Lake field deep test, elev 233 ft, sp. Comer E. Todd et al's W. T. Todd 1 (100-ac), A. B. Patton sur, Boggy Creek area, co to dd from 2450 ft.

BOWIE COUNTY—Ferguson & Hill's A. Y. Breckenridge 1 (412-ac), Nancy Dycas sur, 4 mi w Texarkana, top Nacatoch sand 740 ft, dr 1155 ft. Woodley & Bentley's J. D. Lumpkin 1 (245-ac), John McDermott sur, 1¼ mi sw Dalby Springs, elev 290 ft, Annona chalk 1665-2090 ft, sd 4404 ft.

COLLIN COUNTY—E. A. Parkford et al's (was California Consolidated Oil Co.) Mrs. W. L. Fagg 1 (38-ac), Jas. Rutherford sur No. 4, 2 mi ne Blue Ridge, elev 626 ft, Georgetown lime 1980-2651 ft, tested fresh water in Paluxy series at 2661-2771 ft, pb to 2685 ft and 2667 ft, tested water, to deepen. Port Bolivar Co.'s O. C. Durning-Clarkston 1-A (140-ac), Wm. Creager sur, Pat. No. 1193, 2½ mi n Anna, elev 722 ft, td 4098 ft, sd; A. Shirley 1 (50-ac), Gwynn Morrison sur, 1 mi e Anna, sp and sd.

DELTA COUNTY—W. S. McGee et al's Mrs. P. W. Miller 1 (52-ac), E. Spencer sur, 1 mi sw Cooper, elev 465 ft, top Woodbine Red Beds 2650 ft, top Georgetown lime 3040 ft, co to deepen fr 4220 ft. F. J. Estes et al's W. S. McGee 1 (207-ac), J. G. Oliver sur, 2 mi sw Klondike, dk.

FALLS COUNTY—J. Edward Mills et al's Sam Grucholski 1 (40-ac), Dennis Herold league, 5 mi sw Kosse, elev 521 ft, top Edwards lime 3867 ft, top upper Glen Rose 4074 ft, sd 4114 ft.

FREESTONE COUNTY—C. A. Everts et al's O. W. Killam 1 (840-ac), John Robbins sur, 6½ mi se Fairfield, Red Lake area, elev 368 ft, dr 1000 ft. Fred R. Lovering et al's E. Bonner-Scott 1 (23-ac), H. Awalt sur, 7 mi n Fairfield, Pecan chalk 2175-2286 ft, top Austin chalk 3117 ft, sd 3860 ft. R. L. Wheelock, J. L. Collins et al's W. R. (Bill) Boyd Jr. 1 (410½-ac), F. P. Cabler sur, 3½ mi sw Fairfield, elev 425 ft, Pecan chalk 2744-2813 ft, top Austin chalk 3609 ft, dr chalk 3650 ft.

GRAYSON COUNTY—Olson Drl. Co.-Jas. H. Gardner & Broswood Oil Co.'s D. R. Utiger 1 (160-ac), P. P. Cady sur, 5 mi nw Denison, elev 722 ft, show o&g in Trinity 860-890 ft, base Trinity series 930 ft, top Woodford chert 955 ft, top Viola cherty-lime 1570 ft, top Stringtown shale 1854 ft, dr black shale 2024 ft.

HOPKINS COUNTY—Empire O. & R. Co.'s J. E. Worsham 1 (149.36-ac), Alex O. Wetmore sur, Sulphur Bluff area, elev 430 ft, Pecan chalk 1511-1610 ft, top Woodbine 3130 ft, top Georgetown lime 3675 ft, top Paluxy series 4475 ft, pay 4502-4550 ft, flowing for initial gauge. Walter L. Goldston & Frankel Bros.' H. J. Smith 3 (450-ac), Jas. A. Craft sur, lcn. D. S. Hager and W. P. Luse's J. G. Reynolds 1 (200-ac), A. O. Wetmore sur, elev 420 ft, top Woodbine Red Beds 3750 ft, top Georgetown lime 3850 ft, cut


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HOUSTON COUNTY—E. R. Mount, Branch et al's Dr. P. S. Griffiths 1 (136-ac), Frank Johnson sur, 3 mi sw Crockett, sd 700 ft.

HUNT COUNTY—Stanolind O. & G. Co. et al's L. B. Moore 1 (92-ac), R. Ragsdale sur, 2½ mi w Campbell, lcn for Trinity test. Superior Oil Co. (Cal.), Moncrief & Showers Inc. & W. L. Pickens' P. B. Paul 1 (183-ac), Mary Latham sur, 5 mi ne Quinlan, rur for Trinity test. Penn Oil Corp.-Elmer S. & Fox Wood's A. B. Manning 1 (57½-ac), Sally Owens sur, 5 mi ne Lone Oak, elev 599 ft, dk.

LAMAR COUNTY—H. Salmon, Lowery & Cutler's E. C. Porter 1 (30-ac), Thos. King sur, 3 mi ne of Chicota, Woodbine series 168-242 ft, top Georgetown lime 354 ft, sd 615 ft.

LEON COUNTY—H. M. Ogg et al's O. Wiley 1, E. Devinney sur, 1 mi w Buffalo, dk. Roth & Faurot O. & G. Co.'s J. L. Shaw 1 (254-ac), O. R. Reams sur, 5 mi n Centerville, top broken Pecan chalk 4065 ft, base chalk 4290 ft, top Gober chalk 4860 ft, Austin chalk 5150-5390 ft, dr hard sandy-shale 6135 ft.

LIMESTONE COUNTY—A. W. Phillips, J. Johnson et al's E. M. Speight 1 (136½-ac), M. Herrin and Pedro Varella sur, 4 mi ne Groesbeck, dr 2010 ft.

RAINS COUNTY—Humble O. & R. Co.'s O. L. J. Easter 1 (39¾-ac), R. Hotchkiss sur, 4½ mi e of Emory, 7600-ft Trinity test, elev 438 ft, Pecan chalk 2185-2435 ft, Austin chalk 3424-3745 ft, top Woodbine series 4225 ft, top sand 4380 ft, top Washita 4970 ft, top Georgetown lime 5003 ft, top Paluxy series 6079 ft, tested water, top upper Glen Rose lime 6347 ft, dr lime 6900 ft.

RED RIVER COUNTY—J. S. Abercrombie Co.-Harrison Oil Co.'s Southern Pine Lumber Co. 3 (392.37-ac), D. D. Bruton sur, 11 mi ne Clarksville, elev 403 ft, fsh drill pipe, td 2311 ft. Carpenter Oil Corp.'s R. E. Anderson 1 (100-ac), S. W. Sims sur, 3 mi n Clarksville, elev 459 ft, top Red Beds 1250 ft, sd 1835 ft. Roy I. Carter Drilling Co. et al's J. A. Tutt 1 (40-ac), Dennis Harty sur, 2 mi s Avery, elev 440 ft, sp and sd. M. Petroff et al's R. C. Morris 1 (176-ac), Joseph Guest sur, 2 mi w Detroit, sp and sd. Dale Sneed, R. H. Manning & Texfornia Co.'s Hooker-Hughes 1 (80-ac), MEP&P Ry. sur No. 642, 6 mi sw Lydia, elev 307 ft, Pecan chalk 995-1302 ft, top Austin chalk 2018 ft, sd 2720 ft.

ROBERTSON COUNTY—J. Edward Mills et al's Tony Congelosi 1 (75-ac), Geo. A. Nixon sur, 3 mi sw Hearne, sd 2250 ft.

RUSK COUNTY—Ben E. Lamb et al's Haywood Leath 1 (185-ac), L. J. Dooley sur, 2½ mi e of Pirtle, elev 370 ft, Pecan chalk 2468-2793 ft, Austin chalk 3352-3512 ft, sd 4740 ft.

SMITH COUNTY—W. L. Cloud et al's Dora Kendall 1-A, John Williams sur, 1¼ mi se Jamestown, flowing salt water, td 2794 ft, dry & abd.

TITUS COUNTY—J. V. McMahon, G. H. McIntyre et al's John B. Stevens 1 (777½-ac) J. Muechen sur, 8 mi sw Mount Pleasant, elev 349 ft, Pecan chalk 2290-2600 ft, sd 3715 ft.

WOOD COUNTY—G. W. Nix et al's Mrs. E. A. Russell 1, John Delap sur, 4 mi w of Golden, sd 600 ft.

## SOUTH TEXAS

ARANSAS COUNTY—Atlantic's McCampbell Ranch 2-C, 330 ft sel, 1650 ft swl of C lease, lot 9, sec 40, McCampbell Ranch sub, McCampbell area, lcn. Barnsdall's Edwards 1, 80 ft wl, 330 ft out lot 87, Lamar Townsite, Wm. Lewis sur, A, 96, 9 mi ne Rockport, dr 3900 ft.

ATASCOSA COUNTY—Frontier Oil Co.'s Oppenheimer 1, 193.4-ac tr, J. Sharp sur No. 518, 6 mi s Lytle, sd 200 ft. Helvetia Oil Co.'s Susie Pratt 2, 176-ac tr, F. de la Garza sur, Anchorage prospect, ½ mi se Pratt 1, td 3428 ft, top serpentine 3085 ft, pb 3250 ft, perf liner 3150-3208 ft, swabbed 10 bbls oil from serpentine, hole filled 90 ft with oil in 12 hrs, shot with dynamite and nitro and cleaning to complete. L. G. Priest, Tr.'s John Sanders 1, 117-61-ac tr, J. P. Garman sur No. 1189, sd 1160 ft.

BANDERA COUNTY—A. T. Crane et al's R. B. Watson 1, A. C. Curver sur No. 71, 2 mi n Medina City, td 2035 ft, black shale, co to dd.

BEE COUNTY—Benson & Jones' Geo. A. Ray 1, 40-ac tr, Anna Burk sur, 3 mi e Beeville, old well sd 4910 ft in sdtr hole.

BEXAR COUNTY — American Gas Co.'s Oliver 5, 400-ac tr, M. F. Rodriguez sur, Gas Ridge, dr 3387 ft. Albert Chmel's Theresa McIntosh 1, 274-ac tr, J. W. Garrity sur No. 19, ¾ mi sw Kirby, dr 510 ft. Eckert & Son and W. W. Kelley's W. Barkmeyer 1, 810 ft swl, 520 ft sel 486-ac tr, Villepando sur, near Hildebrand rd, 12 mi s of San Antonio, dr 325 ft. H. V. Hange and G. E. Donnell's Mahula 1, 504-ac tr, Jose Maria Bustillo sur No. 29, 5 mi nw Adkins, abnd 335 ft. J. O. Williams' C. Hoch Est. 1, 157-ac tr, J. M. Baerrera sur No. 58, 1¼ mi n Von Ormy Pool, dr 460 ft. Woodward, Hardie & Herrold's Herman Sons 1, 2019-ac tr, Henry Pace League, sur 37, tr 9, Swearingen, Cassin & Tayloe subd, 28 mi s San Antonio, dr 1525 ft.

BROOKS COUNTY—California Co.'s Mestena 1, Alta Mesa area, B. Garcia tr 5, La Mestena de Gonzaline gr, coring 3130 ft, wocs; B. Garcia 3-2, tr No. 3, La Mestena de Gonzalina gr, Alta Mesa area, sand 2443-58 ft, 7 in csg 2443 ft, recemented wocs. Douglas & Burden, Inc.'s M. A. Faller 1, G. M. Laughlin sur No. 434, Alta Verde, 1½ mi se prod, stdg 900 ft.

BURLESON COUNTY—M. R. Exploration Co., Inc.'s J. M. Fountain 3, 936-ac tr, blk A-47 of W. Raleigh sur, 700 ft e No. 2, 12 mi ne Caldwell, lcn. Red Bank Oil Co.'s Nellie Gramm 1, Elisa Santef sur, abt 2500 ft nw Co.'s Gramm 1, 7 mi w Creisman, 7⅝ in cas 3900 ft, td 6241 ft, dst in Edwards 6226-41 ft, p 13 min, rec 180 ft oily mud, no sul water, no pres, ¼ top ch, ¼ bt ch, set cas 6223 ft, dr plugs.

CALDWELL COUNTY — Brown Drilling Co.'s W. J. Pipe 2, Salt Flats area, 134-ac tr, John D. Rains sur, 8 mi se Lockhart, 500 ft e Pope 1, lcn; G. M. Blackwell 1, 409-ac tr, John Roe sur, coring 2112 ft, show of oil, will acidize. J. G. McKenzie's J. M. Pierce 1, S. Seal league, s of Luling, Dunlap area, re-dr 125 ft. Martell Pet. Co.'s W. M. Sanders 1, 750 ft sel of 140-ac lease and 150 ft ne of road, Miles C. Dykes sur, 3 mi nw Luling, abnd 2416 ft, Buda. R. George Young, Trustee's Lena Schmidt 1, W. C. Williams 1/3 league, 3 mi w Lockhart, sd 70 ft.

DE WITT COUNTY—D. G. Glaspie et al's M. A. Olson 1, 550 ft nl, 150 ft el 50-ac tr, A. Dillard sur, dr 465 ft.

DUVAL COUNTY—Argo Oil Co. and John Clopton's Smith-Corkill Est. 1, center e¼ sur 61 (N. Munez sur), 447-ac lease, 2 mi s Hoffman field, or 1550 ft. Atlantic's J. F. Welder Heirs 1-H, 131-ac tr, sec 103, Loma Vista area, abnd 3035 ft. Mills Bennett's Ira G. Yates 5, sur 560, abnd 3515 ft. N. V. Duncan's Worden and Drought 2, 700 ft n and 45 degrees w of 1, sur 151, Charamousca area, coring 1550 ft. Gilcrease Oil Co. and Tom Graham's M. S. Escobar 1, blk 4, sec 2, 829.5-ac tr, Juan Jose Manuel de la Garza Falcon gr, Buffalo, Tex., subd, 2 mi sw Premont area, dr 1510 ft. Hiawatha Oil & Gas Co.'s Southland 1, 330 ft sl and el sec 15, Agua Poquita Fr, 6 mi s Benavides, lcn. Magnolia's E. and E. Labbe 1, sec 221, 2/3 mi nw Labbe field, Loma Novia sand 2844-50 ft, 200 pounds, 5 ft oily mud 10 min, td 2870 ft, set csg, dr plugs. Oliver Oil Co.'s K. Shaffer 1, s¼ sur 146, mir. Albert Plummer et al's Herman Danmier 1, ne¼ sec 58, Copeta Garden tracts, addn No. 4, 9 mi s Realitos, td 3175 ft, changing rigs. Porter & Blanchard's J. T. (Amos) Dinn 1, 330 ft nl and el sec 462, 6 mi n Cole field, dr 50 ft. Smith & Hamill's J. Benavides 3, sub 2, El Mesquite gr, 6 mi se Bruni, dr 1250 ft. J. Elmer Thomas et al's J. B. Peal 1, sur 794, 1 mi e Lopez field, sp. E. R. Thomas' Lillian Parr (was A. Parr et ux), 2, ne¼ sur 2, td 4950 ft, ran electric formation test.

EDWARDS COUNTY—Plateau O&G Co.'s Hatch 1, J. W. May sur, sec 66, HE&WT RR sur, dr 4250 ft, sh.

FAYETTE COUNTY—McNeil Pet. Co.'s V. Dybala 1, 1056 ft nwl, 150 ft nel, 79-ac tr, A. Thompson league, 2 mi se Fayetteville, lcn for 4000-ft test.

FRIO COUNTY—Amerada's Halff & Oppenheimer 7, E. J. Gilman sur, Pearsall, td 5573 ft, set 5 in csg 5237 ft, shot with 450 qts, co to comp; Halff & Oppenheimer 8, San Antonio Ditch Company sur No. 1104, Pearsall, dr 5690 ft.

GOLIAD COUNTY — Felmont Corp.'s W. Hoff 1, 75-ac lease, BS&F sur No. 7, 3000 ft se Maetze field disc well, abnd 3802 ft. Swiger's Carrie Wood 1, blk 23, Swiger subd, Wood Ranch, George Villa sur, 15 mi s Goliad, 2 mi e Keystone's Wood 1, still wor.

GONZALES COUNTY—M. S. Holliday et al's T. G. Edwards 1, W. W. Pace 1/3 rd league, blk "A", Holliday subd, 3 mi sw of Cheapsides, nwoe in new drawworks, 933 ft.

GUADALUPE COUNTY—W. D. Bacon et al's O. D. Halm 1, Joseph Kent sur, 2 mi s Kingsbury, td 1780 ft, in sh, keep to set 5 3/16 csg 1652 ft, top chalk 1652 ft. Louis Crouch et al's Mary E. King 1, 80-ac lse, J. D. Clements sur, ¼ mi se Zaboroski area, dr 1650 ft. La Jita Corp.'s Dan Denman 2, midway between S. Darst Creek and Darst Creek fields, dk, mir. W. W. Lincoln et al's A. Baenzinger 1, 150 ft sl and el 125-ac tr, A. Mansola sur, Salmar area, 6 mi s Seguin, lcn. Long & Ross' Ed Felix 1, 1½ mi s fr New Berlin, 75-ac tr, V. Duran sur, sd 634 ft. Riddle Oil Co.'s E. Nolte et al 1, J. Sowell sur, 6 mi e Seguin, td 1880 ft, pb 185 ft, treated with 4000 gals, putting on pump, opens Nolte field.

HAYS COUNTY—R. D. Kelly's W. P. Donalson et al 1, 105-ac tr, J. Vermandi gr, 1½ mi ne San Marcos, top Edwards 718 ft, still sd 721 ft.

HIDALGO COUNTY — Pantano Oil Co.'s (McCollum Exploration Co.) John C. Engleman Jr. 1-B, lot 3, sec 259, Tex-Mex Ry sur, La Mestina gr, 1½ mi se Pantana gasser, dr 6385 ft; James McDougal 1, lot 223, blk 1, La Blanca tr, 1½ mi s Pantana gasser, coring 6850 ft. H. J. Porter et al's Sweeney Est. 1-A, lot 1, Wayne Wood subd, No. 1, 6 mi sw Donna, dr 638 ft. Dayle L. Smith Oil Co.'s Fairbanks and Young 1, blk 44, porc 46, 4 mi e Samfordyce field, td 1856 ft, installing boiler to dd. Union Sulphur Co.'s ARGL&I Co. 10, blk 50, N. Capisallo dist, Mercedes area, td 8306 ft, set cement plug 7530-50 ft, prep to sdtr.

JIM WELLS COUNTY—Francis & Simonton's A. Lozano Jr. 1 lot 111, sec 76, Holdeman sub, Seeligson ranch, 4000 ft sw Graham's Bennett 1, sd 1200 ft. Gist & Graddy's B. W. Owens 1, Poitevent sur, 3 mi n Bentonville field, still fsh 5308 ft. La Jita Corp.'s Frame & Bowers 1, sec 14, King Ranch sub, deep test Bentonville field, making dst 5681-85 ft. Stanolind O&G Co.'s Richard King 3, 990 ft n and 330 ft from ne cor sec 20, but sec 9, Richard King sub, one mile n Bentonville field, lcn.

KARNES COUNTY—De Garaffe & Reele's Cochran 1, McConnell League 5 mi ne Riddleville, sd 200 ft.

LAVACA COUNTY — Willshire Union Oil Co.'s Albert Pohl 1, 120-ac tr, M. Wotten sur, 7 mi nw of Ezzell, sd 1850 ft.

LEE COUNTY — Eleoussa Oil Co.'s Ira Sanders 1, 102-ac tr, J. Von Roeder sur, dr 2555 ft. James E. Pederson's C. A. Turner 1, D. Hudson sur, 1¼ mi se Tanglewood, td 6560 ft, dr 4925 ft in sdtr hole.

LIVE OAK COUNTY—J. H. Durbin's J. D. Marback 1, 429-ac tr, Stephen Hays sur, 2½ mi sw Whitsett, sd 922 ft. Hagan & Stewart's Land Bank 1, J. Turner sur, 5 mi w and n of Three Rivers, td 590 ft, set 7 in cas, 580 ft has gas blowout at 547 ft, now wocs. Martell Pet. Co. and Sterrett's Whitsett Townsite 1, center blk 55, in Juan Houghlingfian sur, at Whitsett, dr 300 ft. Oil Fuel Supply Co.'s H. J. Rosebrock 1, Louis Romelo sur, Oakville area, td 2808 ft, Pettus 2797-2808 ft, 7 in csg 2800 ft, cleaning into pits. V. G. Schimmell's Geo. West Est. 1, 160-ac tr, J. Poitevant sur 231, 3½ mi sw Geo. West, ru. Jack Sterrett et al's Border National Bank 1, 250 ft se and 150 ft ne of e cor of 100-ac Brown tr, but in Border National 228-ac tr, S. Hays sur, 1½ mi sw Whitsett, cleared lcn. Sun Oil Co.'s J. G. James 1, 1258.3 acres, Patrick McGloin sur, ab 28, 1½ mi w Mikeska, sd 5020 ft.

MAVERICK COUNTY—J. W. Boicourt's Edson & Etrada 1, James Eaves sur 68, 12 mi n Eagle Pass, sd 1425 ft in lime, Rio Development Co.'s Winchester Kelso 1, 294-acres in sur 2, 3 mi ne of Eagle Pass, td 1003 ft mir.

McMULLEN COUNTY—Humble's H. C. Edrington 2, e½ sec 59, AB&M sur, 6 mi ne Seven Sisters field, 2640 ft w No. 1, sd 3000 ft. Edwin M. Jones' Harry Ezzell 1, 160-ac tr, sec 3, Ezzell Ranch subd, Thomas Adams sur, 5 mi nw Simmons City, blew out 1240 ft, running wild.

MEDINA COUNTY—Joise Oil Co.'s Medina Irrigation Farms 1, lot 1, blk 32, sec 7, Medina Irrigated Farms subd, 1½ mi e Devine, dr 1510 ft sh. R. F. Whitfield's W. M. Odem 1, Henry Castro sur No. 177, ne of Taylor field, sd 810 ft. G. Whitting et al's Hondo Nat'l Farm Loan 2, sec 214, Geo. Studer sur, ½ mi ne Hondo, sd 1200 ft in Georgetown, for orders. Will A. Wycoff's T. J. Bendele 1, 321.5-ac tr, James Barnhart sur 593, ab 1733, 8 mi s D'Hanis, sd 208 ft.

NUECES COUNTY—I. J. Allen and Seaboard Oil Corp.'s J. D. Chapman et al 1-A, sec 40, Laureless Farm tracts, 15 mi sw Corpus Christi, old well, ru to dd from 5606 ft. R. B. Bryant and H. H. Howell's Antone Kocurek 1A, 58-acres of s 113 acres of 172.5-ac r, J. H. Smith sur 25, 1 mi s Clarkwood, relief well to wild crater, lcn. Al Buchanan & Blanco Oil Co.'s W. S. Gandy 1, e½ sec 60, George H. Paul subd, 1 mi n Clara Driscoll field, dr 4425 ft. Camp Prod. Co.'s Phillip Wardner, Tr (was Chas. E. Stratton) 1, lot 4, blk F. Stratton area, wo fuel to sp. Conroe Dr. Co. & H. M. Reeds, J. L. Meyers 1, sec 107, ½ mi s Clara Driscoll field, dr 4050 ft. Mrs. N. J. Griffith 6, Frank sur No. 416, reaming gasoline sand 6725-32 ft. W. L. Hinds' Clara D. Sevier 1-A, sec 60, Paul subd, Driscoll Ranch, 65 ft se No. 1, 2 mi w Clara Driscoll field, td 6008 ft, perf around 5850 ft, flowing large volume gas and spraying about 50 bbls distillate, ⅛ ch, tp 1950 lbs, cp 2050 lbs, installed high pressure separator, wait on storage. N. S. Moss et al's R. H. Coleman 1, of 320-ac tr, sec 205, Bishop subd, Palo Alto gr, s of Agua Dulce field, dr 6635 ft, sh. Phillips Pet. Co.'s Rand Morgan 4, sur 405, Saxet field, deep test, dr 6697 ft. Renwar Oil Co.'s W. F. Willoughby 1, 860-ac tr, sec 4-G, Garret sub, Petronilla Singer sur, 5 mi se Driscoll, abnd 6005 ft. G. M. Richardson et al's R. S. Carter 1, nw ¼ of sec 8, Laureless

Farm tr, 8 mi s Corpus Christi and 2 mi se Londow, sd 6780 ft. Sta-Mex O&G Co. Inc.'s Oliver Bird 1, E. R. Oliver sur No. 162, 3 mi w Baldwin field, mir; Cox & Cryer 1, 72-ac tr, Ward & Callagher sur No. 316 and 166, sd 4000 ft, wo water. Teague and Associates, A. M. Poenisch 1, lot 2, blk 32, Flour Bluff and Encinal Garden tracts, 3 mi w Flour Bluff field, old well orig abnd by Hueburt et al, mi dk to wash down and run electric formation tester. Texon Dr. Co.'s Clara D. Sevier 2-B, relief well, 880-ac tr, W. W. Chapman Lands, Palo Alta gr, s Agua Dulce, set 350 ft 16 in cas, still sd; Mable Eliff 1, 3054-ac tr, A. Longria sur, S. Agua Dulce, td 6547 ft, sd 305 ft. Wellington Oil Co. & Pan-American Prod. Co.'s Clara Driscoll Sevier 1-A, Wm. Gamble sur, se of Clara Driscoll field, td 6075 ft, set 5 in cas to td, wocs.

REAL COUNTY—Sun Oil Co.'s Dietert & Oppenheimer 1, sec 7, GWT&P RR sur, 20 mi nw Leakey, dr 1750 ft.

REFUGIO COUNTY—Paul Meader's Temple Lumber Co. 1, sec 1, G. W. Maine sur, ab 218, 2 mi sw Austwell, ru, dr water well. Windsor Oil Co.'s G. W. Bissett 1, John Crockett sur, 1 mi nw of Tivoli, sp.

SAN PATRICIO COUNTY—W. B. Craig's A. E. Nelson 1, s¼ sec 7, first add Taft Farm Lands, 2 mi sw Taft field, bldg sd and mim. W. W. Toland 1, 8000 ft n Kline 1, lot 15, blk "A", Coleman-Fulton Pasture subd, 2½ mi e Gregory, dk and sd. Hooper & Rutherford, Inc.'s J. D. Willis 1, Gregory area, T. T. Williamson sur, e offset to Eleanor's Kline 1, sd 7213 ft, may abnd. Texon Royalty Co.'s J. H. Harvey 1, blk 13, Rincon subd, Geo. Sargent sur, ab 231, 4 mi n Gregory, dr 5350 ft.

STARR COUNTY—Howard Bass' Hayden et al 1, s½ blk 4, sur 7, porc 80, 5½ mi ne Rio Grande City, prep to dd for 1336 ft. F. Davenport and Slick Urschel's T. B. Slick Est. 1, sec 485, 20 mi ne Rio Grande City, sand 5570-89 ft, conditioning mud, top Jackson 5560 ft. E. A. Graham's Yturria et al 1, 230 ft sl and el 29.96-ac tr, por 100, 1500 ft n of west end Samfordyce field, dr 2150 ft. Moss and Heard's S. B. Ricaby 1, por 83, 6 mi ne Rio Grande City, dr 925 ft. Sun Oil Co.'s J. F. Orr 1, M. Gonzales sur, 4½ mi s Cuevitas field, coring 2250 ft.

VICTORIA COUNTY — Magnolia's Willie Beck 1, T&NO Ry. sur No. 1, 4½ mi nw Telferner, td 4812 ft, pb to 4112 ft, 7 in csg set 4100 ft, flowed gas, ¼ ch, tubing pressure 1300 pounds, salt water broke in, now trying to cut off water flow. Plymouth Oil Co.'s J. J. Welder 1, Samuel Belding sur, 7 mi e Nursery, td 6648 ft, prep to sdtr.

WEBB COUNTY—American Texas Oil Co.'s Wm. McKendrick 1, por 46, near Rio Grande River, dr 850 ft. French Oil Corp.'s D. G. Garcia 1, sec 1121, 3 mi ne Oilton, dr 2130 ft, sand 2122-27 ft, tested oil and sw. Ivan Howard's First National Bank 3, sec 475, dry and abnd 1905 ft. Lutex Oil Co.'s Lone Star Con. 1-A. blk 26, SS&B sub, por 12, dr 850 ft. Paul Meaders' F. C. Garcia et al 1, 4¼ sur 1101, 2 mi n Mirando City, ru. Rowan & Hope's A. M. Bruni 1, blk 2, sec 857, 5 mi se Mirando City, sd 2428 ft. Superior Oil Co.'s Masterson 1, sec 35, dr 1630 ft. Smith and Taggart's Sue Jones 1, 2319 ft nl, 330 ft el ec 674, Ruck Transportation sur, 12 mi ne Mirando City, lcn. Wilcox O&G Corp.'s Puig Bros. 1, sec 9, Loma Blanco Pasture of Joaquin Galan gr, sur 2183 ft. dr 3165 ft.

ZAPATA COUNTY—W. C. Bob's J. M. G. Martinez 2, s¼ blk 22, W. R. Duke subd, Randado gr, 1 mi w Charco Redondo field, sd. J. D. Long & Sam Evans et al's 220-ac tr, Vella gr, dr 700 ft.

ZAVALLA COUNTY—J. F. Wilcox's T. J. Gillam 1, sw¼ sec 11, blk A, GWT&T Ry. sur, 6 mi ne Batesville, sp.

## TEXAS GULF COAST

BRAZORIA COUNT—Beaty, Bowles & Borsodie's Truska 1, Algoa prospect, H. & T. B. sur, No. 6. coring shale 8624 ft.

CHAMBERS COUNTY — Laverne Decker's Johnson 1, ne of Anahuac, T. & N. O. sur, sec. 30 dr shale 2625 ft. Salt Dome Oil Corp.'s Lawrence 1-A, Cotton Lake area, S. Barrow sur, flowing oil and salt water 6538 ft. Sun's White Estate 2, Seabreeze prospect, T. & N. O. sur, sec. 128, tested csg 8369 ft.

FT. BEND COUNTY—Sam Harrison's Horak 1, Neeville prospect, H. & T. C sur, sec. 36, dr shale 5606 ft.

GRIMES COUNTY—Fred Harris's Chaney 1, 5 mi w of Mesa, M. Donohue sur, dr shale 2920 ft.

HARRIS COUNTY—B. A. Farrell & J. B. Cox's Bender Estate 1, w of Humble field, M. W. Travis sur, ru. Geo. Lawrence's Zapp 1, Bammel prospect, J. Farwell sur, waiting on order 6525 ft. Stanolind's J. Warren Minerals 1, Hockley area, H. & T. B. sur, No. 1 ru.

JEFFERSON COUNTY — Sun's Hebert Broussard 1, Labelle prospect, W. B. Burton sur, reaming 8217 ft. David B. MacDaniel's Gilbert 1, Gilbert Ranch prospect J. Richard sur, dr shale 7005 ft.

MATAGORDA COUNTY — Continental's Robbins 1, Citrus Grove prospect, C. Franz sur, woc 3025 ft. Same operator's Hawkins 1, Sheppards Mott area, D. McCarthy sur, dr water sand 4749 ft. Hammon Exploration Co.'s Croker 1, South Bay City field, E. Hall sur, dr shale 9309 ft. Strake's Sargent 1, Poole Ranch area, L. E. Parker sur, cutting and pulling 6880 ft. Sun's Craig 2, Hawkinsville area, J. William's sur, dr rock 2236 ft.

POLK COUNTY—J. M. Dorance's Wings 1, nw corner of county, I. & G. N. sur, abstract 713, preparing to swab 5194 ft. Peyton Brother's Kirby West B-1, Ace area, J. S. Thomas sur, setting casing 4868 ft.

TRINITY COUNTY—D. E. Boone's R. Tullos 1, nw part of County, W. M. Watson sur, no report.

TYLER COUNTY — Republic-Houston Oil Company's Hurd Fee 1, se of Spurger field, N. Hurd sur, to make a drill stem test 7701 ft.

WALKER COUNTY — A. U. Morrison's Nolte 1, w of Huntsville, Wm. Hodge sur, no report.

WASHINGTON COUNTY — Stapper Oil Corp.'s Hoxie 1, S. Sample sur, dr shale 2709 ft. Sun's Lauter 1, Clay Creek area, N. Clay sur, coring shale 7607 ft.

## UTAH

EMERY COUNTY—Continental Oil Co. and the Standard Oil Co. of California's Unit 1-A, cnw nw 27-23s-11e, dr 310 ft.

GRAND COUNTY—Cane Creek Oil Co.'s Government 1, nw ne 6-27s-21e, rur. Columbia Crude Corporation's Bath-Government 1, ne sw ne 12-25s-20e, dr 1890 ft in the Paradox. Utah Southern Oil Co.'s Hyde-Government 1, s nw nw 32-22s-2e, dr 5902 ft in Colorado shale.

## WYOMING

ALBANY COUNTY—Hal Blakeman's Chappel 1, cne nw 3-21n-76w, dr 1703 ft.

CARBON COUNTY — General Petroleum Corporation's Union Pacific 1, sw sw sw 5-19n-83w, sd 5530 ft. Medicine Bow Oil Co.'s Hintze-Government 1, cne se 18-22n-78w, dr into Sundance sand at 1910 ft with sg after setting 8⅝ in csg at 1900 ft.

CONVERSE COUNTY—Wyoming Southern Oil Co.'s Salisbury 2, nec nw se 27-32n-69w, cementing 12½ in surface csg at 30 ft.

GOSHEN COUNTY—Ohio Oil Co.'s Joseph A. Waggoner 1, cne ne 14-28n-63w, abd in granite at 3052 ft, well had no oil or gas shows.

LARAMIE COUNTY—Amerada Petroleum Corporation's Morton 1, csw sw 13-13n-68w, dr 7365 ft.

NIOBRARA COUNTY — Adams-Louisiana Co. and H. V. Elwell's Joss 1, csl se nw 1-34n-66w, running 8⅝ in csg to 2200 ft.

PARK COUNTY—General Petroleum Corporation's Government 1, nw nw nw 33-47n-100w, dr 4496 ft.

PLATTE COUNTY — Dividend Oil Co.'s Government 1, csl nw sw 17-24n-66w, dr 1317 ft.

WESTON COUNTY — Conway Oil Co.'s Government 2, se ne nw 7-41n-60w, rur.


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**Oil Well Supply Company**

Oil Well Supply Company, Dallas, Texas, has announced the Imperial No. 100-SC, single-crank, dual-stroke, oilbath geared pumping power, a new type that was designed for various types of drive. The power is rated 100 horsepower at 20 strokes per minute for oil field service. This rating is very conservative, considering its 385 horsepower at 20 strokes per minute, industrial rating (Lewis Formula). It is completely weatherproof and features the proved stationary spindle construction.

A high-speed shaft extension of any desired length can be furnished for use with short V-belt drive or direct drive. The choice of prime movers include horizontal or vertical (multicylinder) oil, gas or gasoline engine or electric motor. The choice of stroke lengths and pumping speeds gives the operator the dual stroke for 30- or 36-inch stroke, tapered crank pin shank for convenience in changing stroke length; and speeds as low as three strokes per minute. Blind angle can be eliminated, and the weatherproof prime mover can be mounted below the plane of the pull rods. The unit is portable and of compact and self-contained construction.

The spindle is a sturdy steel casting designed with an ample margin of safety to withstand any load or shock encountered under capacity operation. It is pressed into a large hub in the base and is bolted in place.

The base is a heavily-ribbed casting which includes the oilbath enclosure, the high-speed shaft housing support and the hub which supports the stationary spindle. The first gear reduction is through a set of forged and carburized alloy steel, spiral bevel gears. The pinion is integral with its shaft. The second reduction is through a set of wide faced, fully heat treated single helical gears that are manufactured by the hobbing process. All bearings are of the tapered roller type.

**Oil Well Geared Power**

the main operating shaft extends the full width of the machine so that the controls are available at either end. The clutch and reverse mechanisms are all connected and controlled by a single hand lever, the movement of which is identical to that of the forward and reverse lever of steam engines. Both ends of the main shaft are extended to accomodate sprockets, and the sprockets can be attached or removed without disturbing any parts of the entire assembly.

The split driving drum sprocket has been designed for cut or cast tooth—either single or double—to provide for universal adaptation with various types of drives. This sprocket can likewise be removed without disturbing any part of the assembly.

### REGULATORS
**The Linde Air Products Company**

The Linde Air Products Company, New York City, has announced a series of three new regulators providing accurate oxygen and acetylene regulation through the entire range of welding and cutting operations. All three regulators are of two-stage construction, essentially identical in basic design, and offer the utmost in precise, efficient pressure control, the manufacturer claims.

The Oxweld Type R-64 oxygen regulator is designed to operate with precision in all welding and cutting operations requiring oxygen pressures up to 75 pounds per square inch. The Oxweld Type R-65 oxygen regulator is designed for heavy-duty cutting operations, which may require oxygen pressures as high as 200 pounds per square inch. As the sensitivity of adjustment and precision of operation carry throughout its entire pressure range, it can also be used for welding, should the need arise. The Oxweld Type R-66 acetylene regulator is a companion piece for either of the oxygen regulators and will give accurate acetylene regulation for all welding and cutting operations.

### PIPE LINE DETECTOR
**Fisher Research Laboratories Sales Company**

Fisher Research Laboratories Sales Company, San Francisco, has announced a new instrument, which, it is said, quickly locates buried pipes, cables, and other objects made of metal, measures their depth, and permits the rapid and accurate mapping of underground metallic systems, with their branches and supplementary equipment.

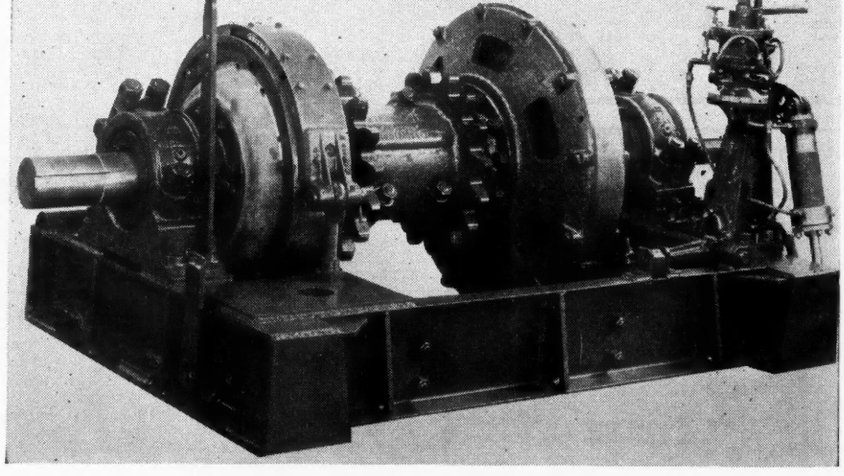
According to the announcement, this instrument, which is known as the "M-Scope," is of interest to all those who lay or use underground pipe or cable systems, or who excavate ground where such systems are located. By means of it, surveys can be made readily, records checked, and errors corrected. Lost lines, valves, manholes, etc., can be located, and unrecorded and illicit connections can be discovered. The stealing of water, gas, and oil can be detected and stopped, and costly exploratory excavations can be avoided, it is claimed. Damage to pipes

### REVERSE AND FRICTION CLUTCH
**Emsco Derrick and Equipment Company**

Emsco Derrick and Equipment Company has extended its line of reverse and friction clutches by the introduction of a new model known as the Type "J". It is similar in design to the widely popular Type "H". The Type "J", however, is a large model and has a rotary drilling capacity of 2 horsepower per revolution, i.e., 200 horsepower at 100 revolutions per minute, 300 horsepower at 150 revolutions per minute, etc.

The Type "J", like its companion model, is a separate unit in itself, the entire clutch and reverse assembly being mounted on a specially constructed rigid frame so that the component parts are completely in alignment at all times.

Flexibility of operation was thoroughly considered in the design of the Type "J". It may be operated manually, or even more simply by an air control; moreover,



**Emsco Type J Reverse and Friction Clutch with Air Control for Rotary Drilling**

and conduits and to excavating machinery during excavating and ditching can be prevented.

The M-Scope consists essentially of two specially designed radio units, a transmitter and a receiver. For most services two men are required, one for each unit; for others, both units are handled by a single operator. No electrical contact with the object being sought or traced is required except when tracing a single member of a compact group of pipes or cables.

In using the assembled M-Scope to locate a buried pipe or cable line, the operator switches on the transmitter, puts on earphones connected with the receiver, and carries both units in the direction of the line, if this is known. As he approaches the line, the sound heard in the phones gradually increases and a needle on an indicator meter swings forward, both signals reaching maximum when the operator has crossed the line. This spot is marked, and the operator then continues onward along the same straight line until the signals become minimum. Then he retraces his steps until both signals are maximum once more. The point halfway between this spot and the one previously marked lies directly over the center line of the buried pipe. One-half of the distance between the two marked spots is the exact depth of the pipe.

To trace the line, the transmitter is set on the ground directly above it, and the operator, carrying the receiver, follows the path along which sustained signals are received. Sudden increases in the signals mean additional metal—a valve, junction, etc.—just below. Sudden decreases mean that the line has turned aside or ended. Branches are located by placing the transmitter above the main line and carrying the receiver parallel to this line. Or the receiver can be placed on the ground directly above the pipe and the transmitter can be carried at right angles but parallel to the pipe. Areas containing unknown lines can be readily surveyed by two men, each carrying a unit. An ingenious device—actually a level—on the receiver makes it possible to measure the depth of a line by merely carrying the receiver along a path running at any angle as recorded by the level to the buried line.

### "DEEP WELL RECORDS"

The West Virginia Geological Survey recently issued an interesting 560-page book on "Deep Well Records," a volume that brings together for the first time all the records of deep wells drilled, with localities and elevations, in West Virginia. Accompanying the report are two maps, one being an Isopach map which shows the intervals between the base of the Berea sand and the top of the Corniferous (Huntersville chert) lime for the possible productive areas of the state. By use of the well records and this Isopach map, it is possible to determine at what depths the known producing horizons may be reached for any locality in the state. The second map is a reproduction of the Charleston Quadrangle showing the locations of all deep wells drilled or drilling in that area up to July 1, 1936. The volume was compiled by Rietz C. Tucker, assistant state geologist, under the direction of Paul H. Price, state geologist.

## This Week with the Industry's EQUIPMENT SUPPLIERS

### Adkison Becomes Assistant to Shaw of Dowell, Inc.

Harold Adkison, formerly of the Hobbs, New Mexico, office of Dowell, Incorporated, has been transferred to the company's general office in Tulsa, where he will become assistant to R. D. Shaw, general sales manager.

Ray Austin of the company has been transferred to Wichita, Kansas, where he will be assistant district manager. Austin has been a district manager for Dowell in the Rocky Mountain area for the past several months, with headquarters at Shelby, Montana.

### FWD Export Manager Goes to Argentina

Charles S. Thomson, export manager of The Four Wheel Drive Auto Company, has embarked for Argentina where he will make a business tour of three months.

Born in the Argentine where he learned the Spanish language as a youth before he mastered English, Thomson has a wide circle of friends in many South American countries.

Until a few years ago, the export executive made his headquarters for the FWD concern at Buenos Aires. He plans to renew friendships and acquaintances during his short trip.

### Presents Reed Stock To Houston Rice Institute

**Houston.**—Ten thousand shares of Reed Roller Bit Company, currently valued around one-third million dollars, were given December 23 to Rice Institute of Houston by William M. Rice, Houston capitalist and lumberman and nephew of the institute's founder.

Rice is a director of Reed Roller Bit Company. He said that income from the shares given will run from $8000 to $20,000 annually, and that it is his belief the stock will appreciate in value. He added that it is expected the trustees of the institute will dispose of the stock when they deem it best for the interests of the university.

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**Oklahoma City.**—An amended certificate has been filed with the federal securities and exchange commission by the Transwestern Oil Company, stating it will offer 490,000 shares of $10 par value common stock at $13.75 per share, the original offering being 750,000 shares. Of the remaining 260,000 shares, 1000 shares have been issued and the remainder are optioned to certain individuals. Organization of the Transwestern, it is expected, will be completed late in the year.

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**Tulsa.**—Plans are under way by Stanolind Pipe Line Company to complete a new loop in its present line from the Fitts field of Pontotoc County to Pauls Valley in Garvin County, where it taps the main Gulf Coast-Mid-Continent-Chicago line. The nine miles of loop will give the company two 8-inch lines to Pauls Valley and one to Maud.

**T. M. "Tommie" Smith has been appointed service man for the Houston Division of Patterson-Ballagh Corporation, and will have headquarters in the M. and M. Building, Houston. Smith formerly was employed by Humble Oil & Refining Company and Danciger Oil and Refineries, Inc., following his graduation from Texas A. and M. College.**

# Squeaks from the Bull Wheel

### No Danger of Getting Lost

Earnest Cockrell and John Suman were arranging a hunting trip together, and Cockrell accompanied Suman to a sporting goods store where he purchased some equipment for the hunt, including a compass.

"What is the compass for, John?"

"In case I get lost I will need it to find the way back to camp."

"No you won't need that. In case you get lost, just sit down, facing any direction, take a deck of cards and deal out a game of solitare. About the third card and a member of the Houston Club will be looking over your shoulder to tell you which card to play next, and you can ask him the way back to camp."

### How Father Stands

Mother (after relating a pathetic story): "Now, Reggie, wouldn't you like to give your bunny to that poor little boy you saw today who hasn't any father?"

Reggie (clutching rabbit): "Couldn't we give him father instead?"

### Consultant

"Tell me, papa, what is a consulting physician?"

"He is a doctor who is called in at the last minute to share the blame."

### Constancy

"Will you love me when my hair has turned to silver?"

"Why not? Haven't I stuck with you through brown, red and black?"

### Quiet

"What did your wife say when you came home last night?"

"The darling never said a word. And I was going to have those two front teeth pulled out anyhow."

### Being Mean

A drunk was swaying back and forth on the sidewalk when the cop stepped up and asked him what he was doing and where he lived.

"Right there," he said, pointing to a house, "but I rang the bell and nobody anshered."

"How long ago was that?" asked the cop.

"Oh, a couple of hours."

"Well, why don't you try again?"

"Aw, the heck with 'em—let 'em wait."

### Ambitious

"How did you like the new guy you were out with?"

"He had a very fartherly way about him."

"Fartherly?"

"Yes. Constantly trying to go farther and farther."

### Little Audrey Again

Bossy, the favorite cow of Little Audrey's uncle, was stolen when the family woke up one morning. "Drat that thief," said Uncle John, "he's probably miles away from here by now with Bossy."

But Little Audrey, realizing the thief couldn't get far, only laughed and laughed and laughed, because she knew her uncle had drained Bossy's crankcase the night before.

### Dizzy

"My boy friend is a great ball player and could make the big leagues if it weren't for his grandstand playing at night."

"But you don't have night baseball in your town."

"No, but we have a grandstand."

### No Brick Layer

The evening had been very pleasant. The young couple had dined out. The moon was gorgeous and shone down on them as they rode slowly homeward. He was enraptured by it all. She had been a charming companion, entertaining and alluring. He sought to say something nice to her.

"You are charming. So alluring tonight. By George," he began, "you're a brick!"

"That's fine, darling, thanks," the girl responded, "but remember, you're no Mason young man!"

### How Likee?

A guest at a banquet took pains to make himself agreeable to a Chinese sitting next to him. Somewhat at a loss for small talk, he ventured, after the first course, to inquire, "Likee soupee?"

There was no reply, except a genial beam. After the next course he followed up his first opening with "Likee fishee?" This evoked a still more genial beam.

Later in the evening the visitor from the Far East responded to a toast in perfect English. On resuming his seat, he asked his discomfited neighbor, "Likee speechee?"

### Reward

Lifeguard (with girl in arms): "Sir, I have just resuscitated your daughter."

Father: "Then, by gad, you'll marry her!"

### Afternoon Work

"Has the stenographer told you what to do in the afternoon?"

"Yes, sir," said the new office boy, "I was to wake her up when I saw you coming."

### Billet-Doux

Let me see that letter you've just opened. I can see from the handwriting it's from a woman and you turned pale when you read it.

You can have it. It's from your milliner.

### He Knew Them Himself

The passer-by stopped and looked at the man struggling vainly with his broken-down car.

"Excuse me," said the stranger, "but perhaps I can help you. There are one or two things I can tell you about your make of car."

The owner straightened himself up and looked at the other.

"Please keep them to yourself, old chap," he remarked, warmly, with a glance towards the occupants of the car. "There are ladies present."

### At the Circus

Willie to the circus went,
He thought it was immense;
His little heart went pitter-pat,
For the excitement was in tents.

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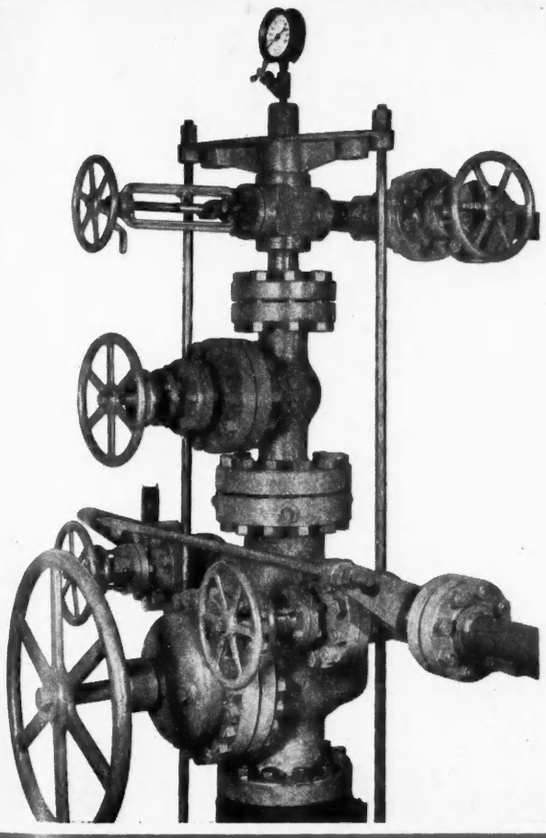
| Wilson-Snyder Manufacturing Co. | — |
| Wilson Manufacturing Co. | — |
| Wilson Supply Company | 35 |
| WKM Co. | — |
| Worthington Pump & Machinery Corp. | — |

| Y | |
|---|---|
| Yale & Towne Manufacturing Co. | — |
| Youngstown Sheet & Tube Co. | — |

# *Your Christmas Tree is really complete with a*

# KEROTEST

## CROSS TYPE CONTROL CHOKE *or* NEEDLE VALVE



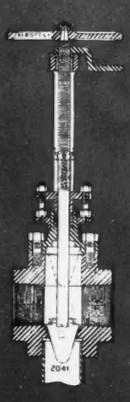
*(Licensed under Petroleum Engineering Research Co. Patents)*

Regardless how you lay out your Tree, it's smart practice nowadays to equip every Christmas Tree Assembly with a Kerotest Forged Steel Control Choke or a Kerotest Cross Type Full Flow Needle Choke for oil well production. It not only assures a positive shut-off but also affords the safest and most economical method of precision control on prorated wells and back pressures on sand producing wells. Your Christmas Tree will be more compact and more easily operated, too.

Designed with forged steel bodies and bonnet with a cast steel yoke, Kerotest Control Chokes are tested to 6000 pounds per square inch for working pressures up to 3000 pounds per square inch and are available in all sizes from 2 inches to 6 inches to meet every field condition and every design of hookup. Ask about it.

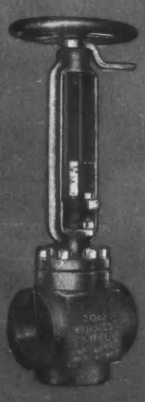
**KEROTEST MANUFACTURING COMPANY**
**PITTSBURGH, PA.**

KEROTEST

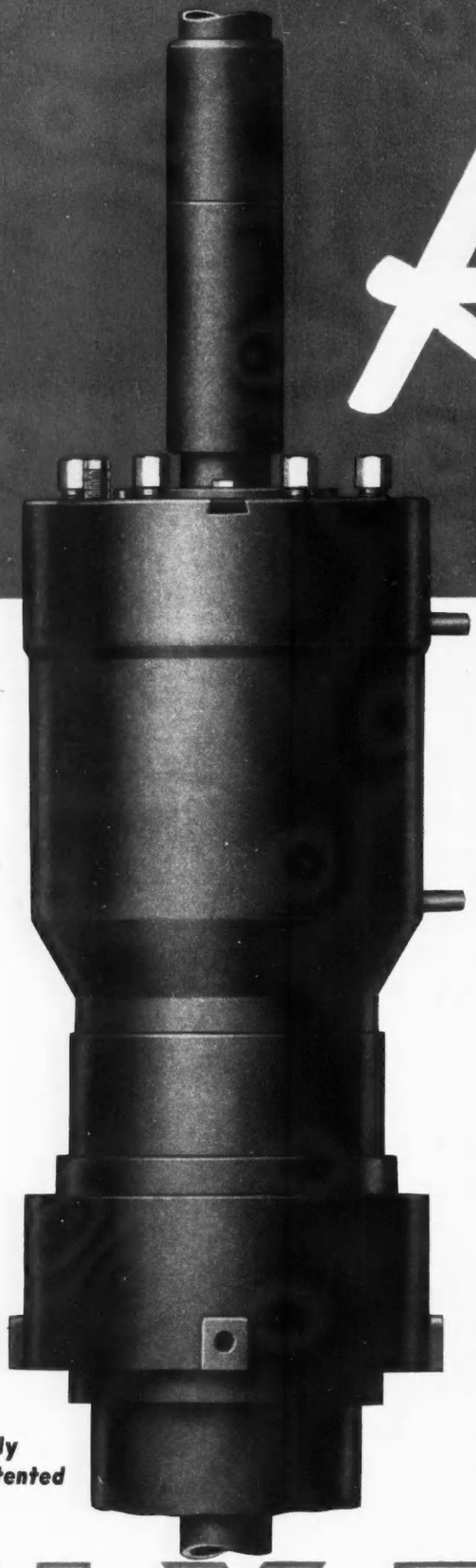


Kerotest Cross Type 2042 Control Choke, illustrated at right, is a size 3" Cross Type Control Choke. The needle withdraws from vertical opening to permit passage of swab or other equipment into the tubing. It has a hardened and ground alloy steel orifice bushing and needle, accurately registering on the indicator scale on stem, the areaway between needle and orifice bushing. The areaway is shown in common fractions from 1/64" to 1"—clearly marked and easily read.

Kerotest Cross Type Full Flow Needle Choke, illustrated at the left, is a size 3" Cross Type Needle Valve, with large needle permitting withdrawing needle from vertical opening and giving a clearway passage for insertion of swab or other equipment into the tubing. When the valve is open it has a flow passage equal to maximum area of 2½" external upset tubing. The indicator scale on stem accurately registers in common fractions the exact area of opening from 1/64" to 2½", in clear figures that are easily read.



# Here IT IS!



## HYDRIL AUTOMATIC BLOWOUT PREVENTER and DRILLING PACKER

**Constant SAFE SEAL around ANY type of DRILL PIPE or KELLY.**

*Fully Patented*

**For Complete Description Refer to the Hydril Section in Your New 1937 COMPOSITE CATALOG.**

# HYDRIL